

# Program Guide



**Community**  
**College**  
OF INDIANA

AN IVY TECH • VINCENNES PARTNERSHIP



**[www.ivytech.edu/indianapolis](http://www.ivytech.edu/indianapolis)**



# Welcome!



Welcome to the Community College of Indiana. This program guide is designed to help you plan your academic and career program. You'll find pages of useful information that will help you get the answers you need.

The Community College of Indiana is a partnership between Ivy Tech State College and Vincennes University. The Community College of Indiana makes education more convenient, bringing a wide range of high quality courses close to home.

The community college offers technical certificates and associate degrees. Ivy Tech State College's technical curriculum, coupled with Vincennes University's liberal arts curriculum, gives students a broad range of courses and degree programs.

Students can earn two-year associate degrees or technical certificates from Ivy Tech State College or two-year liberal arts degrees from Vincennes University. Transfer agreements allow students to transfer credits toward a bachelor's degree at many four-year colleges and universities in and out of state.

Great institutions are built through hard work and dedication, and the Community College of Indiana is certainly no exception. Our administration, faculty, and staff devote countless hours to the goals and mission of the college.

We look forward to serving you. Best wishes!

Sincerely,

Dr. Meredith L. Carter  
Chancellor

Ivy Tech State College and Vincennes University are accredited by the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools

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**Visit [www.ivytech.edu/indianapolis](http://www.ivytech.edu/indianapolis) for  
the most current program information!**





## Where To Get Answers

Admissions  
(317) 921-4800

Financial Aid  
(317) 921-4777

Registrar  
(317) 921-4745

Bursar  
(317) 921-4393

Career and Employment Services  
(317) 921-4881

Testing and Assessment  
(317) 921-4795

Disability Support Services  
(317) 921-4981

Bookstore  
(317) 921-4793

Library  
(317) 921-4782

Business and General Education Division  
(317) 921-4924

Health and Public Services Division  
(317) 921-4450

Technology Division  
(317) 921-4759

The College

# History

Since its inception in 1963, Ivy Tech State College has evolved from a small, post-secondary vocational school providing specialized workforce training, to a community college system with sophisticated, high-tech course offerings. Now the third largest public higher education institution in Indiana, Ivy Tech serves more than 62,000 students per year statewide through its 23-campus system.

In 1963, Indiana Vocational Technical College was created by the Indiana General Assembly, with the support of the Indiana AFL-CIO, Indiana Farm Bureau and the state Chamber of Commerce. When college planners determined that occupational education and training needs differed around the state, the General Assembly approved the formation of 13 administrative regions to effectively serve the needs of each area. These regions were chartered between 1966 and 1969.

The Central Indiana Region was created to serve residents of Marion, Morgan, Hancock, Johnson, Shelby, Boone, Hendricks, and Hamilton counties. Classes were first offered at a rented facility in what is now Indianapolis International Airport in 1966. That first year, the fledgling campus enrolled 367 students in three technical programs. In 1983, the main campus moved to the former American United Life building at the corner of Fall Creek and Meridian, where enrollment has continued to rise. By fall 2001, the campus was serving more than 10,000 students in 22 degree programs.

In 1995, the college's name was changed from Indiana Vocational Technical College to Ivy Tech State College, reflecting a metamorphosis within the institution.

Ivy Tech incorporated a number of changes, which allowed the college to gain statewide accreditation by the North Central Association of

Colleges and Schools. In addition, the transferability of Ivy Tech credits continues to expand.

Credits for many individual courses and several two-year degrees may now be transferred to other four-year colleges and universities and count toward a baccalaureate degree.

Over the years, the nature of Ivy Tech's instructional offerings has changed to meet the demands of the Indiana workforce. Formerly known for its vocational training, the college now offers degrees in many fast-growing, high-tech fields, for which Ivy Tech graduates are sought out by employers.

The college now provides more information technology training and produces more practical nurses than any other college in Indiana. Ivy Tech graduates work in fields ranging from respiratory therapy and computer-aided design to public safety and visual communications.

Offering Hoosiers a wider array of educational options is the reason for the latest big change at Ivy Tech State College. Beginning in fall 2000, partners Ivy Tech and Vincennes University formed the Community College of Indiana (CCI), adding liberal arts courses and associate of art degrees at Ivy Tech's Indianapolis campus. Over the next several years, the Community College of Indiana will expand to all 23 Ivy Tech State College campuses.

## Community Campuses

### Avon High School

7575 East, 150 South  
(317) 921-4461 or 1-800-624-7584

### Ben Davis High School

1200 N. Girls School Rd.  
(317) 921-4461 or (317) 241-0200

### Beech Grove High School

5330 Hornet Avenue  
(317) 921-4461

### Community Life and Learning Center

515 E. Main Street, Carmel  
(317) 921-4461 or (317) 569-9203

### Danville High School

100 Westview Dr.  
(317) 921-4461 or 1-800-624-7584

### Decatur Central High School

5251 Kentucky Ave  
(317) 921-4461 or 1-800-624-7584

### Greenfield Central High School

810 N. Broadway  
(317) 921-4461 or 1-800-624-7584  
After 6:00 p.m. call (317) 462-7984

### Lawrence (two locations)

- Public Safety (PB)  
9530 E. 59th St.
- Roosevelt Building (RB)  
9301 E. 59th St.  
Call (317) 917-5990, or 1-800-624-7584

### Lebanon High School

510 Essex Drive  
(765) 482-6806, or 1-800-624-7584

### Mooresville High School

550 N. Indiana  
(317) 921-4461

### Noblesville High School

18111 Cumberland Rd.  
(317) 921-4461 or (317) 773-4680

### Pike High School

6701 Zionsville Rd.  
(317) 921-4461

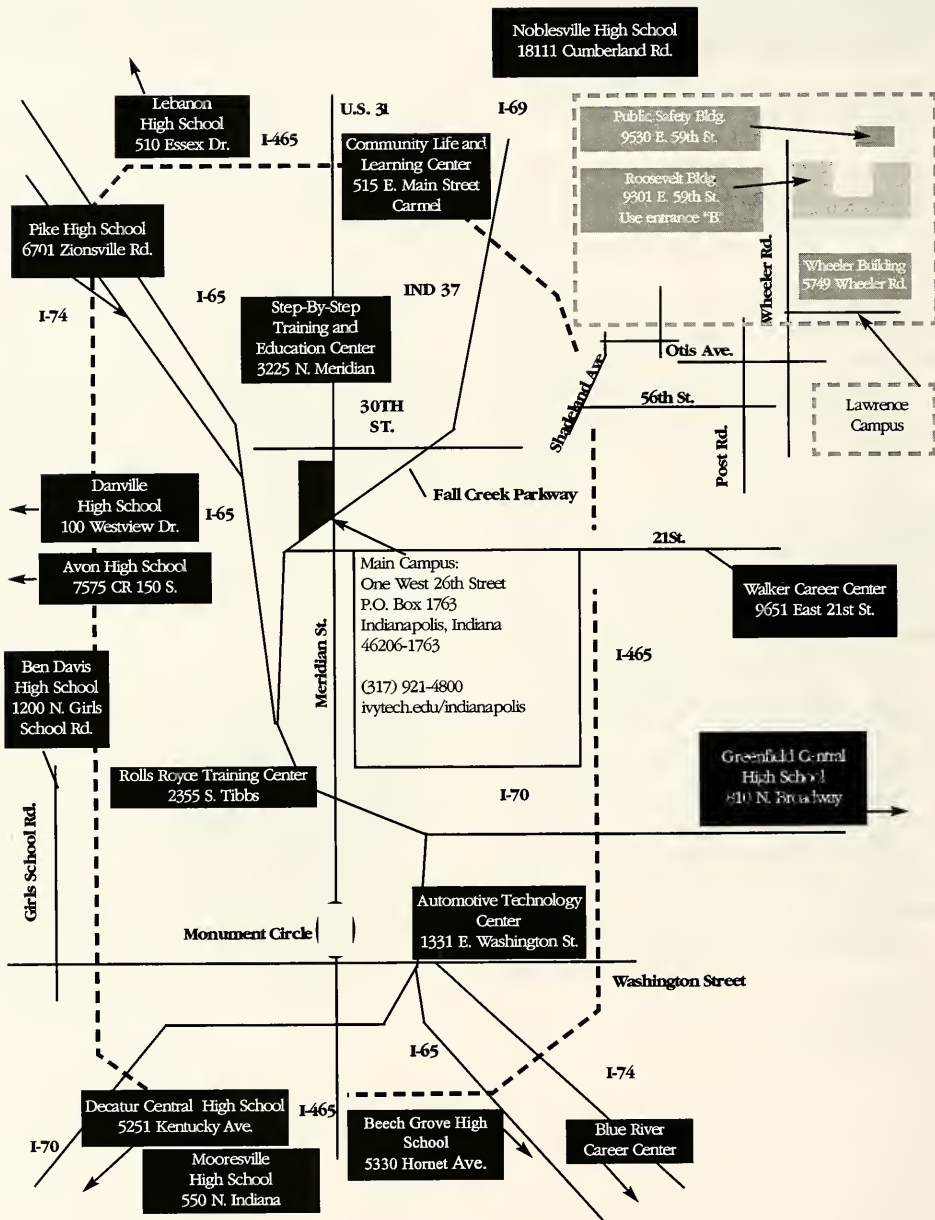
### Shelbyville

Blue River Career Center  
801 St. Joseph Street  
(317) 392-3243 or 1-800-624-7584

### Walker Career Center

Warren Central High School  
9651 East 21st Street  
(317) 532-6150





CCI programs are designed to meet the needs of the student population, accommodating those who wish to enroll in a few classes as well as those who prefer a full program. Credit programs normally culminate in the Associate of Science degree, the Associate of Applied Science degree, the Associate of Arts, the Technical Certificate, or the Career Development Certificate. The three instructional divisions are Business and General Education, Health and Public Services, and Technology.

### **Associate of Applied Science (AAS) Degree**

Associate of Applied Science degree programs prepare students for career mobility within occupational clusters. The programs offer education in recognized specialties with emphasis on analysis, synthesis, and evaluation. The program content, which is approximately 75 percent technical and 25 percent general education, provides both depth and breadth in conceptual and manipulative skills. The general education courses, offered in the areas of communications, humanities, mathematics, life and physical sciences, and social sciences, equip students with the life skills they need to be fully functioning, contributing members of society. Ask for details from the Admissions Office staff on transfer opportunities.

### **Associate of Science (AS) Degree**

Associate of Science degree programs prepare students for careers and also enable students who have an interest and ability to transfer Ivy Tech or VU credits to cooperating four-year institutions. These programs emphasize cognitive skills intended as pre-baccalaureate study and provide courses equivalent to those prescribed in the lower division of the receiving four-year college or university.

### **Associate of Arts (AA) Degree**

The Associate of Arts programs prepare students to communicate well, adapt to social and economic change, function as team players, analyze issues, and solve problems. This program provides a solid foundation for continued study. Liberal arts is also a favorite choice for students who plan advanced study in medicine, law, or business. The program has been fully articulated with all Indiana four-year colleges.

### **Technical Certificate (TC)**

The Technical Certificate programs provide training in conceptual and manipulative skills for specific occupations. Each program contains a sequence of required courses in a recognized specialty within one of the technologies taught at the college. The program content is designed to develop competency in the comprehension of general and technical skills in that specialty.

### **Career Development Certificates (CDC)**

Ivy Tech provides short-term programs for individuals who desire to develop competencies in a specific area. These programs are less than 32 semester credits in length. Instruction is delivered through methods that include regular courses and specifically-designed courses. Many of these courses are based on a sequence of learning experiences determined by a certifying state or national association or organization. Completion of certain short-term programs qualifies students to sit for certification examinations. The number and types of short-term programs vary.

### **Foundation for Academic Programs**

Ivy Tech offers a foundation of academic courses to assist students in successfully accomplishing their educational goals.

In addition to foundation courses in mathematics and study skills, available services include academic assessment, career assessment and counseling, tutoring, and other academic assistance. The need for these services may be identified at the time of admissions, or a student may access services upon encountering academic difficulty during a course of study. Instructors and laboratory technicians provide supplemental instruction in math, English, science, and study skills. Ivy Tech students preparing for the GED examination may take a practice test and receive academic counseling.

### **Weekend College**

Weekend College is Ivy Tech's way of providing an educational opportunity to individuals who are unable to attend during regular weekday or evening hours.

Weekend College offers a wide selection of credit courses and continuing education programs.



## Academic Programs

Accounting.....	8
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# Accounting

In the Accounting Program, students develop an understanding of accounting principles, business communications, business equipment and related areas of study in the business field. Instruction is offered in computerized accounting systems. Technical skills in financial accounting, cost accounting, and tax preparation are emphasized.

Accounting includes maintaining journals and ledgers, processing banking transactions, billing, preparing payroll, maintaining inventory records, purchasing, processing expense reports, preparing financial statements, and analyzing managerial reports. Potential paraprofessional positions include junior or staff accountant, junior auditor, cost accounting clerk, bookkeeper, payroll clerk, inventory clerk, accounts receivable clerk, and financial management trainee.

**Degrees Available**

- Associate of Applied Science – 60 credits
- Associate of Science – 60 credits
- Career Development Certificate

## ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 60 credits.

<b>General Education Core</b>			<b>18 credits</b>
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
HSS	143	Speech	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
xxx	xxx	Life/Physical Sciences Elective	3
xxx	xxx	Humanities/Social Sciences Elective	3
<b>Technical Core</b>			<b>18 credits</b>
ACC	101	Principles of Accounting I	3
ACC	102	Principles of Accounting II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
CIS	101	Introduction to Microcomputers	3
OAD	218	Electronic Spreadsheets in Business	3
<b>Specialty Core</b>			<b>15 credits</b>
ACC	105	Income Tax I	3
ACC	201	Intermediate Accounting I	3
ACC	202	Intermediate Accounting II	3
ACC	203	Cost Accounting I	3
ACC	225	Integrated Accounting Software	3
<b>Regionally Determined Core (choose three)</b>			<b>9 credits</b>
ACC	106	Payroll Accounting	3
ACC	111	Principles of Accounting Lab I	1
ACC	112	Principles of Accounting Lab II	1
ACC	206	Managerial Accounting	3
ACC	209	Auditing	3
ACC	288	Bridge to Intermediate Accounting	1
BUS	105	Principles of Management	3
BUS	108	Personal Finance	3
BUS	210	Managerial Finance	3
CIS	207	Access Database	3
MKT	101	Marketing	3
OAD	288	Office Calculation Machine	1

Note: For a complete list of regionally determined core classes, please see your program chair.



# ASSOCIATE OF SCIENCE

To receive this degree, you must earn 60 credits.

General Education Core			24 credits
HSS	143	Speech	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
HEW	102	English Composition II	3
APO	111	American National Government	3
MAT	111	Intermediate Algebra	3
APO	151	Principles of Sociology	3
xxxx	xxx	Life/Physical Sciences Elective	3
Technical Core			18 credits
ACC	101	Principles of Accounting I	3
ACC	102	Principles of Accounting II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
CIS	101	Introduction to Microcomputers	3
OAD	218	Electronic Spreadsheets in Business	3
Specialty Core			18 credits
ACC	105	Income Tax I	3
ACC	201	Intermediate Accounting I	3
ACC	202	Intermediate Accounting II	3
ACC	203	Cost Accounting I	3
ACC	209	Auditing	3
ACC	225	Integrated Accounting Software	3
Suggested courses that help develop students for required courses. These courses are not required.			
ACC	288	Bridge to Intermediate	1

# Automotive Technology

The Automotive Technology Program prepares students with the general and technical education needed for successful careers in automotive service, sales, technical support, management and customer relations, and for continuation in higher education. A two-year program requiring 66 credits leads to an Associate of Applied Science degree.

## **ASSET Ford Motor Company Specialty**

ASSET is a joint partnership between Ford Motor Company, Ford and Lincoln-Mercury Dealers and Ivy Tech State College. ASSET is a two-year cooperative education program allowing you to earn while you learn at a Ford or Lincoln Mercury dealership. At the completion of the program you will have earned Ford Certification and an associate of applied science degree, and be off to a great career as an automotive service technician.

## **ASEP General Motors Corporation Specialty**

Taking advantage of the partnership of General Motors, GM Dealerships and Ivy Tech State College, ASEP offers a two-year associate of applied science degree program that includes GM service technician certification. ASEP allows you to alternate between formal classroom training and hands-on paid work experience at a local GM dealership. An associate degree, Factory GM certification, and paid co-op experiences make ASEP the premier way to become a GM technician.

## **T-TEN Toyota Motor Sales, USA Specialty**

T-TEN is a partnership between Toyota Motor Sales, USA, Toyota and Lexus dealerships and Ivy Tech State College. The T-TEN program provides opportunities to study the latest automotive technology, co-op at a Toyota or Lexus dealership, earn Toyota training certification and complete either a certificate or associate of applied science degree. In addition to the certified training, degree or certificate completion, placement in a Toyota or Lexus dealership, the Toyota T-TEN program has a tool scholarship available to T-TEN students.

## **TSEP AC Delco**

TSEP is a two-year college education program, combining classes in automotive technology with work experience in an independent service center. TSEP is a partnership between AC Delco, TSEP college, students, and service centers that are members of AC Delco Total Service Support (TSS) Program. TSEP allows students that want to work on all makes and models in a non-dealership environment the opportunity to gain state-of-the-art training, AC Delco certification along with their certificate or degree.

## **Degrees Available**

Associate of Applied Science – 66 credits  
Career Development Certificate

## **Average Salary**

\$34,649 average starting salary based on graduate survey.

ASSOCIATE OF APPLIED SCIENCE

Automotive Service Specialty

To receive this degree, you must earn 66 credits.

General Education Core		18 credits
HSS	143	Speech OR
HSS	148	Interpersonal Communication
HEW	101	English Composition I
MAT	112	Functional Mathematics
SPS	101	Physical Science
xxx	xxx	Humanities/Social Sciences Elective
xxx	xxx	General Education Elective
Technical Core		15 credits
AMS	101	Steering and Suspension System
AMS	113	Electrical/Electronics I
AMS	109	Engine Performance I
AMS	201	Climate Control Systems
AMS	105	Powertrain Service
Specialty Core		33 credits
AMS	107	Engine Principles and Design
AMS	121	Braking Systems
AMS	123	Electrical/Electronics II
AMS	125	Manual Drivetrain Service
AMS	127	Engine Repair
AMS	135	Automatic Transmission
AMS	209	Engine Performance II
AMS	219	Engine Performance III
AMS	229	Driveability Diagnosis
AMS	243	Electrical/Electronics III
AMS	280	Co-op/Internship

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and in all eight areas of the Automotive Service Excellence (ASE) by the National Automotive Technicians Education Foundation (NATEF).

A c a d e m i c P r o g r a m s

## ASSOCIATE OF APPLIED SCIENCE

### Ford ASSET (Automotive Student Service Educational Training) Specialty

To receive this degree, you must earn 66 credits.

General Education Core			18 credits
HSS	143	Speech OR	
HSS	148	Interpersonal Communication	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics	3
SPS	101	Physical Science	3
xxx	xxx	Humanities/Social Sciences Elective	3
xxx	xxx	General Education Elective	3
Technical Core			15 credits
AMS	101	Steering and Suspension System	3
AMS	113	Electrical/Electronics I	3
AMS	109	Engine Performance I	3
AMS	201	Climate Control Systems	3
AMS	105	Powertrain Service	3
Specialty Core			33 credits
AMS	107	Engine Principles and Design	3
AMS	121	Braking Systems	3
AMS	123	Electrical/Electronics II	3
AMS	125	Manual Drivetrain Service	3
AMS	127	Engine Repair	3
AMS	135	Automatic Transmission	3
AMS	209	Engine Performance II	3
AMS	219	Engine Performance III	3
AMS	229	Driveability Diagnosis	3
AMS	243	Electrical/Electronics III	3
AMS	280	Co-op/Internship	3

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ASSOCIATE OF APPLIED SCIENCE

General Motors ASEP (Automotive Specialty Education Program) Specialty

To receive this degree, you must earn 66 credits.

General Education Core		18 credits
HSS	143	Speech OR
HSS	148	Interpersonal Communication
HEW	101	English Composition I
MAT	112	Functional Mathematics
SPS	101	Physical Science
xxx	xxx	Humanities/Social Sciences Elective
xxx	xxx	General Education Elective
Technical Core		15 credits
AMS	101	Steering and Suspension System
AMS	113	Electrical/Electronics I
AMS	109	Engine Performance I
AMS	201	Climate Control Systems
AMS	105	Powertrain Service
Specialty Core		33 credits
AMS	107	Engine Principles and Design
AMS	121	Braking Systems
AMS	123	Electrical/Electronics II
AMS	125	Manual Drivetrain Service
AMS	127	Engine Repair
AMS	135	Automatic Transmission
AMS	209	Engine Performance II
AMS	219	Engine Performance III
AMS	229	Driveability Diagnosis
AMS	243	Electrical/Electronics III
AMS	280	Co-op/Internship

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and in all eight areas of the Automotive Service Excellence (ASE) by the National Automotive Technicians Education Foundation (NATEF).

A c a d e m i c P r o g r a m s

## ASSOCIATE OF APPLIED SCIENCE

### T-TEN (Toyota Technical Education Network) Specialty

To receive this degree, you must earn 66 credits.

General Education Core			18 credits
HSS	143	Speech OR	
HSS	148	Interpersonal Communication	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics	3
SPS	101	Physical Science	3
xxx	xxx	Humanities/Social Sciences Elective	3
xxx	xxx	General Education Elective	3
Technical Core			15 credits
AMS	101	Steering and Suspension System	3
AMS	113	Electrical/Electronics I	3
AMS	109	Engine Performance I	3
AMS	201	Climate Control Systems	3
AMS	105	Powertrain Service	3
Specialty Core			33 credits
AMS	107	Engine Principles and Design	3
AMS	121	Braking Systems	3
AMS	123	Electrical/Electronics II	3
AMS	125	Manual Drivetrain Service	3
AMS	127	Engine Repair	3
AMS	135	Automatic Transmission	3
AMS	209	Engine Performance II	3
AMS	219	Engine Performance III	3
AMS	229	Driveability Diagnosis	3
AMS	243	Electrical/Electronics III	3
AMS	280	Co-op/Internship	3

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and in all eight areas of the Automotive Service Excellence (ASE) by the National Automotive Technicians Education Foundation (NATEF).

ASSOCIATE OF APPLIED SCIENCE

TSEP AC Delco Specialty Specialty

To receive this degree, you must earn 66 credits.

General Education Core		18 credits
HSS	143	Speech OR
HSS	148	Interpersonal Communication
HEW	101	English Composition I
MAT	112	Functional Mathematics
SPS	101	Physical Science
xxx	xxx	Humanities/Social Sciences Elective
xxx	xxx	General Education Elective
Technical Core		15 credits
AMS	101	Steering and Suspension System
AMS	113	Electrical/Electronics I
AMS	109	Engine Performance I
AMS	201	Climate Control Systems
AMS	105	Powertrain Service
Specialty Core		33 credits
AMS	107	Engine Principles and Design
AMS	121	Braking Systems
AMS	123	Electrical/Electronics II
AMS	125	Manual Drivetrain Service
AMS	127	Engine Repair
AMS	135	Automatic Transmission
AMS	209	Engine Performance II
AMS	219	Engine Performance III
AMS	229	Driveability Diagnosis
AMS	243	Electrical/Electronics III
AMS	280	Co-op/Internship

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and in all eight areas of the Automotive Service Excellence (ASE) by the National Automotive Technicians Education Foundation (NATEF).

A c a d e m i c P r o g r a m s

# **Business Administration**

## **Specialties:**

*Management*

*Marketing*

The Business Administration Program gives graduates the broad background they need for general administrative positions in a variety of business environments. It also provides an opportunity for specialization. A student in the Business Administration Program may specialize in management or marketing.

Substitutions in the Business Administration Program are allowed when approved by the program chair. Normally, substitutions are granted in the Regional Core of the program. This practice is allowed to help students who feel their career goals are enhanced by taking different electives than recommended. It is also necessary to allow transfer students some latitude to complete their degree as long as the General Education and State Technical Core are satisfied.

## **Degrees Available**

Associate of Applied Science – 60 credits

Associate of Science – 63 credits

Career Development Certificate



# ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 60 credits.

General Education Core			18 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
*AEC	xxx	Economics Elective	3
*xxx	xxx	Life/Physical Sciences Elective	3
*xxx	xxx	Humanities/Social Sciences Elective	3

Technical Core			18 credits
ACC	101	Principles of Accounting I	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	105	Principles of Management	3
CIS	101	Introduction to Microcomputers	3
MKT	101	Principles of Marketing	3

Choose one of the following specialties:

Management Specialty Core			12 credits
BUS	202	Human Resource Management	3
BUS	203	Business Development	3
BUS	204	Case Problems in Management	3
BUS	210	Managerial Finance	3

Management Regionally Determined Core			12 credits
*xxx	xxx	Approved Business Elective	3
*xxx	xxx	Approved Business Elective	3
*xxx	xxx	Approved Business Elective	3
OPM	224	Operations Management	3

Marketing Specialty Core			12 credits
BUS	204	Case Problems	3
MKT	104	Promotions Management	3
MKT	201	Introduction to Market Research	3
MKT	220	Principles of Retailing	3

Marketing Regionally Determined Core			12 credits
*xxx	xxx	Approved Business Elective	3
*xxx	xxx	Approved Business Elective	3
*xxx	xxx	Approved Business Elective	3
OPM	224	Operations Management	3

\* Note: For a list of approved electives, please see your program chair.

## ASSOCIATE OF SCIENCE

To receive this degree, you must earn 63 credits.

Students who wish to pursue their bachelor of science degree in Business Administration at Indiana State University and desire to take their first two years of that program at Ivy Tech State College should follow this curriculum:

<b>General Education Core</b>			<b>36 credits</b>
HSS	143	Speech	3
HEW	101	English Composition	3
HEW	108	Technical Writing	3
MAT	111	Intermediate Algebra	3
xxx	xxx	Life/Physical Sciences/Math Elective	3-6
xxx	xxx	Humanities	9-12
xxx	xxx	Social Sciences Elective	9-12
<b>Technical Core</b>			<b>27 credits</b>
ACC	101	Accounting Principles I	3
ACC	102	Accounting Principles II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	230	Business Statistics	3
CIS	101	Introduction to Microcomputers	3
CIS	102	Information Systems Fundamentals	3
ECN	201	Principles of Macroeconomics	3
ECN	202	Principles of Microeconomics	3

# Computer Information Systems

## **Specialties:**

*Network (Windows 2000)*

*PC Support and Administration*

*Programmer Analyst*

*Web Management*

The Computer Information Systems curriculum, with specialties in programmer analyst, PC support and administration, and networking is designed to provide the flexible and comprehensive training required by information technology employers. The curriculum includes technical courses in computer information systems and related areas, general education and regionally determined technical courses in each specialty area.

## **Network Specialty**

The rapid development and implementation of communications and networking technology have been major factors in the evolution of connectivity both in the United States and around the world. The ability to connect a personal computer into another system of computers and peripherals requires the skill of a highly qualified network specialist. The Network Specialty in the Computer Information Systems Technology program is designed to prepare the student for many of the challenging job opportunities in this technical field. Emphasis is on how “computer networks” are designed, installed and maintained. The Computer Information Systems Technology Program is a Microsoft-Authorized Training Partner. By successfully completing selective network specialty courses, students will have demonstrated that they have a solid understanding of network technology and may become candidates for professional certification exams either in Microsoft Windows 2000 MCSA, A+ and Network + programs.

**PC Support and Administration Specialty**

The curriculum is designed to prepare the graduate for employment as a PC systems administrator or help desk technician in a small- to medium-sized organization. Personal computer technicians should be able to handle a variety of jobs related to the personal computer in a business, government or service organization. The trained technician should be able to successfully solve problems associated with the installation and use of applications and operations systems software as well as installing microcomputer hardware components and diagnosing hardware problems. The study of business on the Internet is a component of this curriculum. Microcomputer applications, Windows 98 operating system, hardware/software troubleshooting and Internet web page design are some of the specific courses in this program. Data communications, systems analysis and design, local area networks and relational database are also included in the PC Support and Administration curriculum.

**Programmer Analyst Specialty**

The programmer analyst curriculum is designed to prepare the graduate to be a business applications computer programmer. Applications programmers convert a design for a computer system into instructions for the computer. They are responsible for testing, debugging, documenting and implementing programs. Applications programmers in business generally have at least a two-year degree.

**Web Design Specialty**

This specialty prepares the graduate with the skills to design web sites, including the use of graphics, forms and database connectivity. The curriculum also provides familiarity with HTML, Microsoft Frontpage, Macromedia Dreamweaver and basic website support such as a security and system management. Current application trends, E-Commerce and E-Business, the Internet, Intranets and Extranets are explored. The specialty can lead to positions such as web developer, web designer or web master.

**Degrees Available**

Associate of Applied Science – 60 credits

# ASSOCIATE OF APPLIED SCIENCE

## Network Specialty

To receive this degree, you must earn 60 credits.

General Education Core		18 credits
HSS	143	Speech
AEC	100	Elements of Economics
HEW	101	English Composition I
MAT	112	Functional Mathematics OR
MAT	111	Intermediate Algebra
SPS	101	Physical Science
ASO	151	Principles of Sociology

Technical Core		18 credits
ACC	101	Accounting Principles I
BUS	101	Introduction to Business
CIS	101	Introduction to Microcomputers
CIS	102	Information Systems Fundamentals
^CIS	106	Microcomputer Operating Systems
^CIS	203	Systems Analysis and Design

Specialty Core – Windows 2000 Option		12 credits
CIS	202	Data Communications
CIS	262	Client Operation Systems
CIS	263	Windows Network Operating Systems
CIS	265	Managing a Windows Network

Regionally Determined Core (Windows 2000 Option)		12 credits
CIS	240	A+ Certification I
CIS	241	A+ Certification II
CIS	235	Network Fundamentals
CIS	xxx	Elective

Electives -Networking (Windows 2000 option)		
CIS	288	Win2000 AD Design
CIS	288	Win2000 Security Design
CIS	288	Win2000 Infrastructure Design
CIS	266	Win2000 Hardware Service and Support
CIS	113	Logic, Design and Programming
CIS	232	Visual Basic Programming
CIS	116	Intro to Java Programming
CIS	201	Database Design and Management
CIS	252	Web Page Design
CIS	104	Cobol Programming Fundamentals
ELT	124	Digital Electronics

^ Capstone Course (Course that summarizes previous course experience.)

^^ Students must earn a "B" or higher in CIS 106 to be eligible to enroll in and networking courses.

## ASSOCIATE OF APPLIED SCIENCE

### Programmer Analyst Specialty

To receive this degree, you must earn 60 credits.

General Education Core		18 credits
HSS	143	Speech
AEC	100	Elements of Economics
HEW	101	English Composition I
MAT	112	Functional Mathematics OR
MAT	111	Intermediate Algebra
SPS	101	Physical Science
ASO	151	Principles of Sociology

Technical Core		18 credits
ACC	101	Accounting Principles I
BUS	101	Introduction to Business
CIS	101	Introduction to Microcomputers
CIS	102	Information Systems Fundamentals
CIS	106	Microcomputer Operating Systems
CIS	203	Systems Analysis and Design

Specialty Core		12 credits
CIS	113	Logic, Design and Programming
CIS	207	Micro Database Design and Mgmt. Sys.
CIS	xxx	Introduction to (Language) Programming
CIS	xxx	Advanced (Language) Programming

Regionally Determined Core		12 credits
CIS	232	Visual Basic
CIS	202	Data Communications
CIS	xxx	CIS Elective
CIS	xxx	CIS Elective

Electives		
CIS	104	Cobol Programming Fundamentals
CIS	116	Introduction to Java Programming
CIS	204	Advanced Cobol Programming
CIS	205	Database Design w/Oracle
CIS	211	RPG/400 Programming
CIS	212	C++ Programming
CIS	216	Advanced RPG/400 Programming
CIS	221	Advanced C++ Programming
CIS	224	Hardware/Software Troubleshooting
CIS	232	Visual Basic Programming
CIS	236	Advanced Visual Basic Programming
CIS	237	Advanced Java Programming
CIS	252	Web Page Design
CIS	235	Network Fundamentals

# ASSOCIATE OF APPLIED SCIENCE

## PC Support and Administration Specialty

General Education Core			18 credits
HSS	143	Speech	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
SPS	101	Physical Science	3
ASO	151	Principles of Sociology	3

Technical Core			18 credits
ACC	101	Accounting Principles I	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
CIS	102	Information Systems Fundamentals	3
CIS	106	Microcomputer Operating Systems	3
^CIS	203	Systems Analysis and Design	3

Specialty Core			12 credits
CIS	202	Data Communications	3
CIS	224	Hardware/Software Troubleshooting	3
CIS	251	Advanced Operating Systems	3
CIS	252	Website Development	3

Regionally Determined Core			12 credits
CIS	201	Database Design and Management	3
CIS	235	Network Fundamentals	3
CIS	xxx	Elective	3
CIS	xxx	Elective	3

Electives			
CIS	113	Logic Design and Programming	3
CIS	232	Visual Basic Programming	3
CIS	116	Introduction to Java Programming	3
CIS	205	Database Design w/Oracle	3
CIS	104	Cobol Programming Fund	3
CIS	211	RPG/400 Programming	3
CIS	252	Web Design	3
OAD	218	Electronic Spreadsheets	3
ELT	124	Digital Electronics	3

^ Capstone Course (Course that summarizes previous course experience.)

## ASSOCIATE OF APPLIED SCIENCE

### Web Management Specialty

General Education Core			18 credits
HSS	143	Speech	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
SPS	101	Physical Science	3
ASO	151	Principles of Sociology	3

Technical Core			18 credits
ACC	101	Accounting Principles I	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	
CIS	102	Information Systems Fundamentals	3
CIS	106	Microcomputer Operating Systems	3
^CIS	203	Systems Analysis and Design	3

Specialty Core			12 credits
CIS	201	Database Design and Management	3
CIS	252	Website Development	3
CIS	257	Advanced Web Site Development	3
CIS	259	Web Administration	3

Regionally Determined Core			12 credits
CIS	202	Data Communications	3
CIS	251	Advanced Operating System	3
CIS	xxx	Visual Basic or Java Programming	3
CIS	xxx	Elective	3

Electives			
CIS	113	Logic Design and Programming	3
CIS	116	Introduction to Java Programming	3
CIS	212	C++ Programming	3
CIS	224	Hardware/Software Troubleshooting	3
CIS	232	Visual Basic Programming	3
CIS	235	Network Fundamentals	3
CIS	236	Advanced Visual Basic Programming	3
CIS	237	Advanced Java Programming	3
CIS	102	Information Systems Fundamentals	3
CIS	240	A+ Certification I	3

^ Capstone Course (Course that summarizes previous course experience.)



# ELECTIVES FOR SPECIALTY CORES

X=May be selected for that specialty

		Programmer Analyst	PC Systems/Administrator	Network	Web Management
CIS 109	UNIX Operating Systems	X	X	-	X
CIS 113	Logic, Design and Programming	-	X	X	
CIS 114	Principles of Management Information Systems	X	X	-	
CIS 116	Introduction to Java Programming	X	X	X	X
CIS 120	Programming I - COBOL	-	X	-	X
CIS 206	Project Development with High Level Tools	X	X	-	
CIS 207	Microcomputer Database Management Systems	X	-	-	X
CIS 209	Computer Business Applications	X	X	-	
CIS 211	RPG/400 Programming	X	-	-	
CIS 212	C++ Programming	X	X	X	X
CIS 213	Assembler Language Programming	X	-	-	
CIS 215	Field Study	X	X	-	
CIS 216	Advanced RPG/400 Programming	X	-	-	
CIS 221	Advanced C++ Programming	X	X	X	
CIS 223	Integrated Business Software	X	X	-	
CIS 225	Advanced Database Management Systems	X	X	-	X
CIS 227	Topics in Information Management	X	X	X	
CIS 228	Cooperative Education	X	X	X	
CIS 231	Structured Query Language	X	X	-	
CIS 232	Visual BASIC	-	X	X	X
CIS 233	Graphic User Interfaces: Windows	X	X	-	
CIS 235	Network Fundamentals	X	X	-X	X
CIS 251	Advanced Operating Systems	X	-	-X	X
CIS 252	Web Site Development	-	X	-X	
CIS 253	Graphic Image Lab	X	X	-	X
CIS 255	Network Operating Systems	X	X	X	
CIS 256	LAN/Data Communications	X	X	-	
CIS 258	Network Communications and Connectivity	X	X	-	
CIS 280	CO-OP/Internship	X	X	X	X
CIS 288	Special Topics In Computer Information Systems	X	X	X	
CIS 292	Advanced Visual Basic	X	-	-	

# Criminal Justice

## **Specialties:**

*Law Enforcement*

*Youth Services*

*Corrections*

The Criminal Justice program addresses educational needs for professionals in a wide variety of both public and private criminal justice facilities and service providers. Students will acquire an in-depth understanding of the various psychological, social and environmental needs of clients served by these facilities. Program objectives include training the entry-level professional and providing education and training to upgrade the skills and knowledge of those currently employed in the field. The Criminal Justice graduate will be a competent, entry-level provider of services in such employment settings as law enforcement, adult and juvenile correctional facilities, community correctional programs, child advocacy, juvenile agencies, victim advocacy, protective services and other human service agencies. Students who choose to continue their education will also have a solid academic foundation upon which to pursue a baccalaureate degree.

The associate-degree curriculum provides a minimum of two years for the student to acquire and demonstrate the academic knowledge and the emotional and personal maturity essential in the field. The academic knowledge will prepare graduates to work as police officers, correctional officers, case workers, victim advocates, child advocates, youth counselors, substance abuse counselors, court-appointed special advocates, and human services agency counselors in a variety of settings. With experience and additional education, graduates may qualify for promotion to supervisory positions.

## **Degrees Available**

Associate of Science - 63 credits

Associate of Applied Science - 64 credits

ASSOCIATE OF SCIENCE

For transfer to Indiana State University's Bachelor of Science in Criminology program.  
To receive this degree, you must earn 64 credits.

General Education Core			27 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
HEW	102	English Composition II	3
MAT	xxx	Mathematics Elective	3
APG	111	American National Government	3
APS	142	General Psychology	3
ASO	151	Principles of Sociology	3
xxx	xxx	Life/Physical Science Elective	3
xxx	xxx	Social Science/Humanities Elective	3
Technical Core			37 credits
CRJ	101	Introduction to Criminal Justice Systems	3
CRJ	103	Cultural Awareness	3
CRJ	105	Introduction to Criminology	3
CRJ	113	Criminal Investigations	3
CRJ	115	Criminalistics	3
CRJ	123	Juvenile Justice Systems	3
CRJ	202	Adjudication	3
CRJ	203	Policing and Community Relations	3
CRJ	280	Internship	4
HMS	105	Introduction to Correctional	
		Rehabilitation Services	3
HMS	113	Substance Abuse	3
LEG	211	Criminal Law	3

## ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 64 credits.

<b>General Education Core</b>			<b>21 credits</b>
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	xxx	Mathematics Elective	3
APG	111	American National Government	3
APS	142	General Psychology	3
ASO	151	Principles of Sociology	3
xxx	xxx	Life/Physical Science Elective	3
<b>Technical Core</b>			<b>18 credits</b>
CRJ	101	Introduction to Criminal Justice Systems	3
CRJ	103	Cultural Awareness	3
CRJ	105	Introduction to Criminology	3
HMS	103	Interviewing and Assessment	3
HMS	113	Substance Abuse	3
LEG	211	Criminal Law	3
<b>Specialty Cores</b>			
<b>Law Enforcement</b>			<b>25 credits</b>
CRJ	111	Introduction to Traffic Control	3
CRJ	113	Criminal Investigations	3
CRJ	115	Criminalistics	3
CRJ	118	Introduction to Law Enforcement	3
CRJ	202	Adjudication	3
CRJ	203	Police and Community Relations	3
CRJ	205	Procedural Criminal Law	3
CRJ	280	Internship	4
<b>Youth Services</b>			<b>25 credits</b>
CHD	209	Families in Transition	3
CRJ	121	Juvenile Law and Procedures	3
CRJ	123	Juvenile Justice Systems	3
CRJ	202	Adjudication	3
CRJ	222	Special Issues in Youth Services	3
CRJ	280	Internship	4
HMS	205	Behavior/Reality Techniques	3
HMS	215	Juvenile Delinquency	3
<b>Corrections</b>			<b>25 credits</b>
CRJ	131	Community-Based Corrections	3
CRJ	133	Legal Issues in Corrections	3
CRJ	202	Adjudication	3
CRJ	223	Special Issues in Corrections (Classification and Treatment of Inmates)	3
CRJ	280	Internship	4
HMS	105	Introduction to Correctional Rehabilitation Services	3
HMS	204	Rehabilitation Processes: Probation and Parole	3
HMS	205	Behavior/Reality Techniques	3

# Design Technology

## **Specialties:**

*Architecture*

*CAD/CAM*

*Civil*

*Computer Graphics*

*Mechanical*

The Design Technology Program is competency-based and is designed to be responsive to the needs of business and industry. The program provides an environment conducive to the development of general knowledge, technical skills and critical thinking skills so graduates may enter their profession as entry-level technicians. They will also be prepared to respond to future advances and changes in their profession. Included is a foundation in engineering and design principles blended with the latest hardware and software used in industry today. This balance of skills in both areas provides students with the diversity necessary to be competitive in the job market. Graduates will have the necessary skills to choose related careers or continue their education at other postsecondary institutions.

Technical and career development certificates also are available.

The Indianapolis program offers various Associate of Science Degrees depending on the Articulating Institution.

- The college is accredited by the North Central Association of Colleges and Universities.
- All specialties are accredited by the National Association of Industrial Technology (NAIT) .
- The Architectural and Mechanical Specialties are accredited at the design level by the American Design and Drafting Association.

## **Degrees Available**

Associate of Science - 64-67 credits

Associate of Applied Science – 64 credits

Technical Certificate – 33 credits

## **Average Salary**

\$30,300

## ASSOCIATE OF SCIENCE

For transfer to Indiana State University in Industrial and Mechanical Technology or Industrial Supervision.  
To receive this degree, you must earn 67 credits.

General Education Core			31 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	131	Algebra/Trigonometry I	3
MAT	132	Algebra/Trigonometry II	3
SIP	101	Physics I	4
HEW	108	Technical Writing	3
APS	142	General Psychology	3
AEC	202	Macroeconomics	3
ASO	151	Principles of Sociology	3
AHI	139	American History I	3
Technical Core			36 credits
VIS	209	3D Rendering and Animation	3
DSN	103	CAD Fundamentals	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
DCT	113	Intermediate CAD	3
DSN	106	Descriptive Geometry	3
DSN	220	Advanced CAD	3
DSN	221	Statics	3
DSN	222	Strength of Materials	3
xxx	xxx	Technical Elective	3
xxx	xxx	Technical Elective	3
IDS	104	Fluid Power	3

Any Design Technology course qualifies as a technical elective.

ASSOCIATE OF SCIENCE

For transfer to IUPUI in Computer Graphics Technology - Manufacturing Graphics Communication option.  
To receive this degree, you must earn 64 credits.

General Education Core			28 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	131	Algebra/Trigonometry I	3
MAT	132	Algebra/Trigonometry II	3
SIP	101	Physics I	4
HPP	2128	Introduction to Ethics	3
APS	142	General Psychology	3
HAH	110	Art Appreciation	3
ASO	151	Principles of Sociology	3
Technical Core			36 credits
ART	111	Drawing for Visualization	3
ART	115	Typography	3
ART	116	Electronic Illustration	3
DSN	103	CAD Fundamentals	3
DSN	220	Advanced CAD	3
TEC	101	Manufacturing Processes	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
DCT	113	Intermediate CAD	3
VIS	101	Fundamentals of Design	3
VIS	102	Fundamentals of Imaging	3
VIS	209	3D Rendering and Animation	3

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## ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 64 credits.

General Education Core			19 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
MAT	121	Geometry/Trigonometry	3
SIP	101	Physics I	4
xxx	xxx	Elective	3

Technical Core			18 credits
DSN	103	CAD Fundamentals	3
DSN	106	Descriptive Geometry	3
DSN	220	Advanced CAD	3
DSN	221	Statics	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3

Choose one of the following specialties:

Architectural Specialty and Determined Core			27 credits
DCT	105	Architectural Design & Layout	3
DCT	109	Construction Materials and Specifications	3
DCT	204	Architectural CAD	3
DCT	208	Structural Design and Detailing	3
DCT	113	Intermediate CAD	3
DCT	206	Mechanical and Electrical Equipment	3
DCT	210	Surveying	3
DCT	209	Estimating	3
DSN	222	Strength of Materials	3

CAD/CAM Specialty and Determined Core			27 credits
DCT	113	Intermediate CAD	3
DSN	222	Strength of Materials	3
MTT	102	Turning Processes	3
MTT	103	Milling Processes	3
MTT	208	CNC Programming	3
MTT	209	CNC Programming II	3
MTT	220	CAD/CAM I	3
MTT	221	CAD/CAM II	3
TEC	101	Manufacturing Processes	3



Civil Specialty and Determined Core			27 credits
DCT	109	Construction Materials and Specifications	3
DCT	208	Structural Design and Detailing	3
DCT	210	Surveying	3
DCT	213	CAD Mapping	3
DCT	113	Intermediate CAD	3
DCT	209	Estimating	3
DCT	228	Civil I	3
DCT	229	Civil II	3
DSN	222	Strength of Materials	3

Computer Graphics Specialty and Determined Core			27 credits
ART	111	Drawing for Visualization	3
ART	112	Electronic Layout	3
ART	114	Graphic Design	3
ART	116	Electronic Illustration	3
DCT	113	Intermediate CAD	3
VIS	101	Fundamentals of Design	3
VIS	102	Fundamentals of Imaging	3
VIS	115	Introduction to Computer Graphics	3
VIS	209	3-D Rendering and Animation	3

Mechanical Specialty and Determined Core			27 credits
DCT	104	Mechanical Graphics	3
DCT	105	Architectural Design and Layout	3
DCT	113	Intermediate CAD	3
DCT	201	Schematics	3
DCT	216	Jig and Fixture Design	3
DCT	217	Design Process and Application	3
DSN	222	Strength of Materials	3
VIS	209	3-D Rendering and Animation	3

#### General Education Electives (choose one)

AEC	101	Elements of Economics	3
AEC	202	Macroeconomics	3
AEC	201	Microeconomics	3
ETH	101	Ethics	3
HPP	211	Introduction to Philosophy	3
APG	111	American National Government	3
APS	142	General Psychology	3
ASO	151	Principles of Sociology	3

## TECHNICAL CERTIFICATE

To receive this certificate, you must earn 33 credits.

<b>General Education Core</b>			<b>6 credits</b>
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3

<b>Technical Core</b>			<b>3 credits</b>
TEC	104	Computer Fundamentals for Technology	3

<b>Specialty Core</b>			<b>6 credits</b>
DSN	103	CAD Fundamentals	3
TEC	102	Technical Graphics	3

<b>Regionally Determined Core</b>			<b>18 credits</b>
DCT	104	Mechanical Graphics	3
DCT	105	Architectural Design and Layout	3
DCT	113	Intermediate CAD	3
DSN	106	Descriptive Geometry	3
xxx	xxx	Humanities/Social Sciences	3

**Students should select one course from the following:**

DCT	109	Construction Materials and Specifications	3
TEC	101	Manufacturing Processes	3

# Early Childhood Education

**Specialties:**

- Administrative*
- Curriculum*
- Generalist*
- Infant/Toddler*

The Early Childhood Education Program focuses on early childhood growth and development, including adult-child relationships. Emphasis is placed on the development of skills and techniques for providing appropriate environments, care and education for young children. Instruction is provided in the physical, emotional, social, and cognitive areas of early childhood. The training is appropriate for candidates seeking the Child Development Associate (CDA) credential. The student develops competencies through classroom instruction, observation, and participation in early childhood settings. Employment opportunities include: child care centers, nursery school, Head Start, family child care, pediatric settings, nanny care, and school age child care.

**Degrees Available**

- Technical Certificate – 30 credits
- Associate of Applied Science – 63 credits

**Average Salary**

\$19,000 to \$27,000

## ASSOCIATE SCIENCE

For transfer to Ball State University.

To receive this degree, you must earn 66 credits.

### General Education Core

HEW	101	English Composition I	3	<b>27 credits</b>
APS	142	General Psychology	3	
ASO	151	Principles of Sociology	3	
MAT	112	Functional Mathematics	3	
AHI	139	American History I OR	3	
AHI	140	American History II OR		
APO	111	American National Government		
SPS	101	Physical Science	3	
SIL	101	Microbiology	3	
HEW	102	English	3	
HSS	143	Speech	3	

### Technical Core

ECE	120	Child Growth and Development	3	<b>18 credits</b>
ECE	130	Developmentally Appropriate Guidance with a Cultural Context	3	
ECE	101	Beginnings in Child Development	3	
ECE	103	Curriculum in the Early Childhood Classroom	3	
ECE	102	Reflections on Practice	3	
ECE	260	Early Childhood Professionalism	3	

### Specialty Core

ECE	201	Skills for Parenting	3	<b>21 credits</b>
ECE	204	Family in Transition	3	
ECE	210	Early Childhood Administration	3	
ECE	230	Exceptional Child	3	
ECE	233	Emerging Literacy	3	
ECE	235	Preschool Age Practicum	3	
ECE	255	Generalist Practicum	3	

# ASSOCIATE SCIENCE

For transfer to Indiana State University.  
To receive this degree, you must earn 66 credits.

## General Education Core

HEW	101	English Composition I	3
HEW	102	English Composition II OR	3
HEW	108	Technical Writing	3
APS	142	General Psychology	3
ASO	151	Principles of Sociology	3
MAT	112	Functional Mathematics	3
AHI	139	American History I	3
HPP	111	Introduction to Philosophy	3
HSS	143	Speech	3
SCI	xxx	Elective	3

27 credits

## Technical Core

ECE	120	Child Growth and Development	3
ECE	130	Developmentally Appropriate Guidance with a Cultural Context	3
ECE	101	Beginnings in Child Development	3
ECE	103	Curriculum in the Early Childhood Classroom	3
ECE	102	Reflections on Practice	3
ECE	260	Early Childhood Professionalism	3

18 credits

## Specialty Core

ECE	200	Family/Teacher Partnership Skills	3
ECE	210	Early Childhood Administration	3
ECE	204	Family in Transition	3
ECE	233	Emerging Literacy	3
ECE	243	Cognitive Curriculum	3
ECE	225	Infant/Toddler Practicum	3
ECE	235	Preschool Age Practicum	3

21 credits

## ASSOCIATE OF APPLIED SCIENCE

### Administrative Specialty

To earn this degree, you must earn 63 credits.

General Education Core		18 credits
HEW	101	English Composition I
APS	142	General Psychology
ASO	151	Principles of Sociology
MAT	111	Intermediate Algebra OR
MAT	112	Functional Mathematics
SCI	xxx	Science Elective
HEW	102	English Composition II OR
HEW	108	Technical Writing OR
HSS	148	Interpersonal Communication

Technical Core		18 credits
ECE	120	Child Growth and Development
ECE	130	Developmentally Appropriate Guidance with a Cultural Context
ECE	101	Beginnings in Child Development
ECE	103	Curriculum in the Early Childhood Classroom
ECE	102	Reflections on Practice
ECE	260	Early Childhood Professional

Administrative Specialty Core		27 credits
ECE	200	Family/Teacher Partnership Skills
ECE	201	Skills for Parenting
ECE	210	Early Childhood Administration
ECE	204	Family in Transition
ECE	230	Exceptional Child
ECE	218	Leadership and Mentoring in the Early Childhood Profession
ECE	216	Curriculum in the Early Childhood Classroom for Administrators

#### Must take two of the following courses:

ECE	105	CDA Process	3
ECE	255	Generalist Practicum	3
ECE	225	Infant/Toddler Practicum	3
ECE	235	Preschool Age Practicum	3
ECE	245	School Age Practicum	3

ASSOCIATE OF APPLIED SCIENCE

Curriculum Specialty

To earn this degree, you must earn 63 credits.

<b>General Education Core</b>			<b>18 credits</b>
HEW	101	English Composition I	3
APS	142	General Psychology	3
ASO	151	Principles of Sociology	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
SCI	xxx	Science Elective	3
HEW	102	English Composition II OR	
HEW	108	Technical Writing OR	
HSS	148	Interpersonal Communication	3
<b>Technical Core</b>			<b>18 credits</b>
ECE	120	Child Growth and Development	3
ECE	130	Developmentally Appropriate Guidance with a Cultural Context	3
ECE	101	Beginnings in Child Development	3
ECE	103	Curriculum in the Early Childhood Classroom	3
ECE	102	Reflections on Practice	3
ECE	260	Early Childhood Professionalism	3
<b>Curriculum Specialty Core</b>			<b>27 credits</b>
ECE	233	Emerging Literacy	3
ECE	243	Cognitive Curriculum	3
ECE	216	Curriculum in the Early Childhood Classroom for Administrators	3
ECE	223	School Age Programming OR	
ECE	213	Infant and Toddler Care and Programming	3
ECE	200	Family/Teacher Partnership	3
ECE	204	Family in Transition	3
ECE	210	Early Childhood Administration	3
<b>Must take two of the following courses:</b>			
ECE	105	CDA Process	3
ECE	255	Generalist Practicum	3
ECE	225	Infant/Toddler Practicum	3
ECE	235	Preschool Age Practicum	3
ECE	245	School Age Practicum	3

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## ASSOCIATE OF APPLIED SCIENCE

### Generalist Specialty

To earn this degree, you must earn 63 credits.

General Education Core		18 credits
HEW	101	English Composition I
APS	142	General Psychology
ASO	151	Principles of Sociology
MAT	111	Intermediate Algebra OR
MAT	112	Functional Mathematics
SCI	xxx	Science Elective
HEW	102	English Composition II OR
HEW	108	Technical Writing OR
HSS	148	Interpersonal Communication

Technical Core		18 credits
ECE	120	Child Growth and Development
ECE	130	Developmentally Appropriate Guidance with a Cultural Context
ECE	101	Beginnings in Child Development
ECE	103	Curriculum in the Early Childhood Classroom
ECE	102	Reflections on Practice
ECE	260	Early Childhood Professional

Generalist Specialty Core		27 credits
ECE	200	Family/Teacher Partnership Skills
ECE	201	Skills for Parenting
ECE	210	Early Childhood Administration
ECE	204	Family in Transition
ECE	230	Exceptional Child
ECE	233	Emerging Literacy
ECE	243	Cognitive Curriculum

#### Must take two of the following courses:

ECE	105	CDA Process	3
ECE	255	Generalist	3
ECE	225	Infant/Toddler Practicum	3
ECE	235	Preschool Age Practicum	3
ECE	245	School Age Practicum	3

# ASSOCIATE OF APPLIED SCIENCE

## Infant/Toddler Specialty

To earn this degree, you must earn 63 credits.

General Education Core			18 credits
HEW	101	English Composition I	3
APS	142	General Psychology	3
ASO	151	Principles of Sociology	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
SCI	xxx	Science Elective	3
HEW	102	Englsih Composition II OR	
HEW	108	Technical Writing OR	
HSS	148	Interpersonal Communication	3

Technical Core			18 credits
ECE	120	Child Growth and Development	3
ECE	130	Developmentally Appropriate Guidance with a Cultural Context	3
ECE	101	Beginnings in Child Development	3
ECE	103	Curriculum in the Early Childhood Classroom	3
ECE	102	Reflections on Practice	3
ECE	260	Early Childhood Professional	3

Infant and Toddler Specialty Core			27 credits
ECE	111	Environments for Infants and Toddlers	3
ECE	110	Infant/Toddler Growth and Development	3
ECE	213	Early Childhood Programming	3
*ECE	230	Exceptional Child	3
ECE	210	Early Childhood Administration	3
ECE	200	Family/Teacher Partnership	3
*ECE	233	Emerging Literacy	3
*ECE	204	Families in Transition	3
*ECE	201	Skills for Parenting	3

\* Take two of the four.

Must take two of the following courses:

ECE	105	CDA Process	3
ECE	255	Generalist Practicum	3
ECE	225	Infant/Toddler Practicum	3
ECE	235	Preschool Age Practicum	3

## TECHNICAL CERTIFICATE

To receive this certificate, you must earn 30 credits.

### General Education Core

HEW	101	English Composition I	6 credits
APS	142	General Psychology OR	3
ASO	151	Principles of Sociology	3

### Technical Core

ECE	120	Child Growth and Development	24 credits
ECE	130	Developmental and Cultural Awareness	3
ECE	101	Beginnings in Child Development	3
ECE	103	Curriculum in the Early Childhood	3
		Classroom	3
ECE	102	Reflections on Practice	3
ECE	105	CDA Process OR	
ECE	xxx	Practicum	3
ECE	230	Exceptional Child	3
ECE	233	Emerging Literacy	3

# Electronics Technology

## Biomedical Specialty

This program provides the student with the skills necessary to install, maintain, and service medical equipment in hospitals or in the biomedical industry with equipment manufacturers and distributors. This equipment includes patient care monitoring systems, medical imaging devices, clinical laboratory equipment, therapeutic machine-like dialysis equipment, and respiratory therapy systems.

## Broadcasting Communications Electronics Specialty

Students in this program learn the dynamics of installing, testing, repairing, setting up, and operating broadcasting equipment in radio, television, or recording studios. Students also operate equipment that regulates the signal, strength, clarity, and range of sound and colors of recordings or broadcasts. In addition, students may operate control panels and operate and maintain video, sound recording, and special effects equipment.

## Communications/Computer Specialty

This program provides the student with electronic skills in AC/DC circuit theory, using solid state devices, digital principles and electronic computer/communications. This two-year Associate of Applied Science degree program should enable a graduate to seek employment as an electronics or computer technician, electronics equipment installer, computer installer, network hardware technician, satellite antenna installer, microwave installer, and mobile radio technician.

## Industrial Electronics Specialty

This program provides the student with electronic skills in AC/DC circuit theory, using solid state devices, digital principles and industrial controls and systems. This two-year Associate of Applied Science program should enable a graduate to seek employment as an electronic industrial technician, electronic control technician, instrumentation technician, power monitor technician or PLC technician.

## AS

This program provides the student with electronic skills in AC/DC circuit theory, using solid state devices, digital principles, general technology and general education classes. This two-year Associate of Science program should enable a graduate to continue his degree work which would lead to a BS degree in electronic technology, employment as a generalist in electronic technology, electronic management and sales.

## Degrees Available

Associate of Applied Science – 65 credits

Associate of Science – 64 credits

## ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 65 credits.

General Education Core			19 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	131	Algebra/Trigonometry I	3
MAT	132	Geometry/Trigonometry II	3
SIP	101	Physics I	4
xxx	xxx	Humanities/Social Sciences	3

Technical Core			34 credits
ELT	120	Introduction to Electronics	3
ELT	121	Circuits I	3
ELT	122	Circuits II	3
ELT	124	Digital I	3
ELT	125	Digital II	3
ELT	126	Solid State I	3
ELT	221	Solid State II	3
ELT	222	Microprocessors	3
ELT	224	Linear IC Applications	3
ELT	234	Advanced Problem Solving	3
TEC	103	Collaborative Team Skills	1
TEC	104	Computer Fundamentals for Technology	3

### Choose one of the following specialties:

Biomedical Specialty			12 credits
ELT	219	Bioelectronics I	3
ELT	220	Bioelectronics II	3
HHS	101	Medical Terminology	3
ANP	101	Anatomy and Physiology	3

Broadcasting Communications Electronics Specialty			12 credits
ELT	228	Communications Electronics	3
ELT	230	Advanced Communications Electronics	3
ELT	xxx	Broadcasting Internship I	3
ELT	xxx	Broadcasting Internship II	3

Communications/Computer Specialty and Core			12 credits
ELT	228	Communications Electronics	3
*ELT	230	Advanced Communications Electronics	3
*ELT	229	Telecommunications	3
*ELT	231	Microwave	3

Industrial Specialty and Core			12 credits
*AMT	201	Manufacturing Systems Control	3
ELT	223	Electrical Machines	3
*ELT	203	Introduction to Industrial Controls	3
*ELT	214	Industrial Instrumentation	3

\* The following could be substituted for any of the the above except ELT 228 and ELT 223

Elective Options		
ELT	226	Computer Troubleshooting
ELT	227	Peripherals
ELT	212	Networking
IDS	104	Fluid Power Basics

ASSOCIATE OF SCIENCE

To receive this degree, you must earn 64 credits.

General Education Core			31 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
HEW	108	Technical Writing	3
MAT	131	Algebra/Trigonometry I	3
MAT	132	Algebra/Trigonometry II	3
SIP	101	Physics I	3
xxx	xxx	Humanities/Social Sciences	12

Technical Core			36 credits
ELT	120	Introduction to Electronics	3
ELT	121	Circuits I	3
ELT	122	Circuits II	3
ELT	124	Digital I	3
ELT	125	Digital II	3
ELT	126	Solid State I	3
ELT	221	Solid State II	3
ELT	222	Microprocessors	3
IDS	104	Fluid Power Basics	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
ELT	224	Linear IC Applications	3

Accredited by the Accreditation Board of the National Association of Industrial Technology (NAIT) and the Federal Aviation Administration (FAA) Airway Facilities Collegiate Training Initiative (AF-CTI).

\* The following could be substituted for any of the the above except ELT 228 and ELT 223

Elective Options		
ELT	226	Computer Troubleshooting
ELT	227	Peripherals
ELT	212	Networking
IDS	104	Fluid Power Basics

# General Technical Studies

## **Specialties:**

*General Studies*

*Business*

*Health and Public Services*

*Technology*

The General Technical Studies Certificate Program offers students the opportunity for further education and career exploration. Students who earn the technical certificate and do not pursue further education could seek employment areas related to specific courses taken.

## **Degree Available**

Technical Certificate - 30 credit

Technical Certificate

General Studies Specialty

Course ID		Course Title	30 credits
HEW	101	English Composition I	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communication	3
xxx	xxx	Social Science Electives	6
xxx	xxx	Science or Math Elective	3
xxx	xxx	Humanities Elective	3
xxx	xxx	General Electives	12

Recommended Electives:

Science	ANP 101, ANP 102, ANP 201, ANP 203, ANP 204, SCM 111, SCM 112, SES 207, SIL 101, SIL 211, SIP101, SIP 102, SPS 101,
Social Science	AEC 100, AEC 201, AEC 202, AHI 139, AHI 140, APO 111, APO 112, APO 201, APO 210, APO 211, APO 220, APS 142, APS 201, APS 249, APS 280, ASO 151, ASO 154, ASO 245, ASO 252, ASO 253, ASO 261,
Math	MAT 111, MAT 112, MAT 121, MAT 131, MAT 132, MAT 134, MAT 135, SMA 115
Humanities	HAH 110, HEH 110, HEH 111, HEL 220, HEL 221, HEL 222, HEL 223, HEL 224, HEL 225, HEL 227, HEL 232, HEL 240, HEW 102, HEW 108, HEW 202, HLS 100, HLS 101, HLS 103, HLS 201, HLS 203, HMM 118, HPP 111, HPP 212, HPP 213, HPP 220, HSS 143, HSS 148

Note: Students must meet prerequisite requirements of each class in order to enroll in that class.



# Technical Certificate

## Business Specialty

Course ID		Course Title	30 credits
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
AP0	111	American National Government OR	
APS	142	General Psychology	3
BUS	101	Introduction to Business	3
AEC	100	Elements of Economics	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communication	3
xxx	xxx	Electives	12

Students must meet prerequisite requirements of each class in order to enroll in that class.

### Recommended Electives:

ACC 101	CIS 102	LEG 101
ACC 102	HEW 102	MKT 101
AHI 139	HOS 102	OAD 103*
AHI 140	HOS 114	OAD 215
ANP 101	HOS 144	SCM 111
AP0 111	HPP 111	SIL 101
APS 142	HPP 212	SPS 101
BUS 102	HSS 143	<b>*Requires a minimum of</b>
CIS 101*	HSS 148	<b>25 words per minute typing speed.</b>

Technical Certificate

Health and Public Services Specialty

Course ID		Course Title	30 credits
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
HHS	101	Medical Terminology	3
ANP	101	Anatomy and Physiology I OR	
HMS	101	Introduction to Human Services	3
ANP	102	Anatomy and Physiology II OR	
HMS	102	Helping Relationship Techniques	3
HSS	143	Speech OR	
HEW	108	Technical Writing OR	
HSS	148	Interpersonal Communication	3
ASO	151	Principles of Sociology OR	
APS	142	General Psychology	3
xxx	xxx	Electives`	9

Students must meet prerequisite requirements of each class in order to enroll in that class.

Recommended Electives:

AHI 139	CIS 101	MEA 102
AHI 140	HEW 102	MEA 113
ANP 101*	HEW 108	MEA 209
ANP 102	HHS 102	MEA 210
ANP 201	HMS 101	SCM 111**
APO 111	HMS 102	SCM 112
APS 142	HSS 143	SIL 101
APS 201	HSS 148	SIL 211
APS 249	MAT 111	SPS 101
ASO 151	MAT 112	

\* Take HHS 101 before ANP 101

\*\* Take MAT 111 before SCM 111

# Technical Certificate

## Technology Specialty

Course ID		Course Title	30 credits
MAT	111	Intermediate Algebra	3
HEW	101	English Composition I	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communication	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
TEC	113	Basic Electricity	3
xxx	xxx	Technical Electives	12

Note: Students must meet prerequisite requirements of each class in order to enroll in that class

### Recommended Electives:

AMV 100	DSN 103	MTT 204
AMV 202	DSN 106	TEC 101
AST 201	HEA 101	WLD 108
CIS 101	HEA 103	WLD 109
CIS 102	HEA 202	WLD 110
DCT 104	IDS 102	
DCT 105	IDS 107	
DCT 109	IDS 114	
DCT 113	MTT 102	
DCT 228	MTT 103	

# Hospitality Administration

**Specialties:***Baking and Pastry**Culinary Arts**Convention Management**Hotel Management**Restaurant Management*

The Hospitality Administration program emphasizes the techniques of such hospitality leaders as Ritz, Escoffier, Statler, Hilton, and Marriott. By choosing a specialty area, students begin building technical skills for the profession of welcoming and serving guests. The hospitality programs offered by Ivy Tech produce graduates who can perform well in the hospitality industry.

A two-year program requiring 66 credits leads to an Associate of Applied Science degree.

**Degrees Available**

Associate of Applied Science – 66 credits

Career Certificate – 25 credits

**Average Salary**

\$24,000 Salary potential increases with experience.

## ASSOCIATE OF APPLIED SCIENCE

### Baking and Pastry Specialty

To receive this degree, you must earn 66 credits.

General Education Core			18 credits
HEW	101	English Composition I	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communications	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
xxx	xxx	Social Science	3
xxx	xxx	Physical Science	3
xxx	xxx	Humanities Elective	3
Technical Core			18 credits
HOS	101	Sanitation and First Aid	3
HOS	102	Basic Foods Theory and Skills	3
HOS	104	Nutrition	3
HOS	109	Hospitality Purchasing	2
HOS	201	Human Relations Management	3
HOS	203	Menu, Design and Layout	2
HOS	204	Food and Beverage Cost Control	2
Baking and Pastry Specialty Core			30 credits
HOS	105	Introduction to Baking	3
HOS	106	Pantry and Breakfast	3
HOS	111	Yeast Breads I	3
HOS	112	Yeast Breads II	3
HOS	113	Baking Science	3
HOS	208	Cakes, Icings and Fillings	3
HOS	209	Advanced Decorating and Candies	3
HOS	213	Classical Pastries	3
HOS	270	Merchandising/Internship	3
HOS	280	Co-op/Internship/Externship/Practicum	3

ASSOCIATE OF APPLIED SCIENCE

Culinary Arts Specialty

To receive this degree, you must earn 66 credits.

<b>General Education Core</b>			<b>18 credits</b>
HEW	101	English Composition I	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communications	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
xxx	xxx	Social Science Elective	3
xxx	xxx	Physical Science Elective	3
xxx	xxx	Humanities Elective	3
<b>Technical Core</b>			<b>18 credits</b>
HOS	101	Sanitation and First Aid	3
HOS	102	Basic Foods Theory and Skills	3
HOS	104	Nutrition	3
HOS	109	Hospitality Purchasing	2
HOS	201	Human Relations Management	3
HOS	203	Menu, Design and Layout	2
HOS	204	Food and Beverage Cost Control	2
<b>Culinary Arts Specialty Core</b>			<b>30 credits</b>
CIS	101	Introduction to Microcomputers	3
HOS	103	Soups, Stocks and Sauces	2
HOS	105	Introduction to Baking	3
HOS	106	Pantry and Breakfast	3
HOS	108	Table Service	3
HOS	110	Meat Cutting	2
HOS	202	Fish and Seafood	2
HOS	207	Advanced Baking and Chocolates	3
HOS	210	Classical Cuisines	3
HOS	212	Garde Manger	3
HOS	280	Co-op/Internship/Externship/Practicum	3

A c a d e m i c P r o g r a m s

## ASSOCIATE OF APPLIED SCIENCE

### Convention Management Specialty

To receive this degree, you must earn 66 credits.

General Education Core			18 credits
HEW	101	English Composition I	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communications	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
xxx	xxx	Social Science Elective	3
xxx	xxx	Physical Science Elective	3
xxx	xxx	Humanities Elective	3

Technical Core			18 credits
HOS	101	Sanitation and First Aid	3
HOS	102	Basic Foods Theory and Skills	3
HOS	104	Nutrition	3
HOS	109	Hospitality Purchasing	2
HOS	201	Human Relations Management	3
HOS	203	Menu, Design and Layout	2
HOS	204	Food and Beverage Cost Control	2

Convention Management Specialty Core			30 credits
ACC	101	Accounting Principles I	3
BUS	105	Principles of Management	3
CIS	101	Intro to Microcomputers	3
HOS	114	Intro to Hospitality	3
HOS	144	Travel Management	3
HOS	150	The Tourism System	3
HOS	151	Intro to Conventions/Meeting Mgmt.	3
HOS	152	Mechanics of Meeting Planning	3
HOS	153	Development & Mgmt. of Attractions	3
MKT	101	Principles of Marketing	3

Substitutions			
HLS	101	Spanish I	3
HRM	202	Front Office	3
HOS	280	Internship	3

ASSOCIATE OF APPLIED SCIENCE

Hotel Management Specialty

To receive this degree, you must earn 66 credits.

General Education Core			18 credits
HEW	101	English Composition I	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communications	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
xxx	xxx	Social Science Elective	3
xxx	xxx	Physical Science Elective	3
xxx	xxx	Humanities Elective	3
Technical Core			18 credits
HOS	101	Sanitation and First Aid	3
HOS	102	Basic Foods Theory and Skills	3
HOS	104	Nutrition	3
HOS	109	Hospitality Purchasing	2
HOS	201	Human Relations Management	
HOS	203	Menu, Design and Layout	2
HOS	204	Food and Beverage Cost Control	2
Hotel Management Specialty Core			30 credits
ACC	101	Accounting Principles I	3
BUS	102	Business Law	3
CIS	101	Intro to Microcomputers	3
HOS	108	Table Service	3
HOS	280	Internship/Externship/Practicum	3
HOS	144	Intro to Hospitality OR	
BUS	105	Principles of Management	3
MKT	101	Principles of Marketing	3
HOS	114	Travel Management OR	
BUS	101	Introduction to Business	3
HOS	215	Front Office	3
HOS	217	Housekeeping	3

A c a d e m i c P r o g r a m s



## ASSOCIATE OF APPLIED SCIENCE

### Restaurant Management Specialty

To receive this degree, you must earn 66 credits.

General Education Core			18 credits
HEW	101	English Composition I	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communications	3
MAT	111	Intermediate Algebra OR	
MAT	112	Functional Mathematics	3
xxx	xxx	Social Science Elective	3
xxx	xxx	Physical Science Elective	3
xxx	xxx	Humanities Elective	3

Technical Core			18 credits
HOS	101	Sanitation and First Aid	3
HOS	102	Basic Food Theory and Skills	3
HOS	104	Nutrition	3
HOS	109	Hospitality Purchasing	2
HOS	201	Human Relations Management	3
HOS	203	Menu, Design and Layout	2
HOS	204	Food and Beverage Cost Control	2

Restaurant Management Specialty Core			30 credits
ACC	101	Accounting Principles I	3
CIS	101	Intro to Microcomputers	3
HOS	108	Table Service	3
HOS	144	Intro to Hospitality OR	
BUS	105	Principles of Management	3
BUS	102	Business Law	3
MKT	101	Principles of Marketing	3
HOS	114	Travel Management OR	
BUS	101	Introduction to Business	3
HOS	280	Internship/Externship/Practicum	3
BUS	208	Organizational Behavior	3
BUS	210	Managerial Finance OR	
MKT	104	Advertising	3

# Human Services

## **Specialties:**

*Generalist*

*Mental Health*

*Substance Abuse*

The Human Services Program offers students the opportunity to become Human Services Generalists or to concentrate in the areas of Substance Abuse or Mental Health.

As a Human Services professional, graduates reach out to individuals, families, and communities. Job positions might include case worker, advocate, intake worker, counselor technician, residential worker, social service trainer, skills trainer, or community living specialist.

Those who study Human Services with a focus on Substance Abuse may find a position in substance abuse centers (residential, detoxification centers, and hospitals) as counselors or residents-in-training. The program is certified by the Indiana Counselors Association on Alcohol & Drug Abuse (ICAA-DA). Those who focus in the area of Mental Health may find employment in group homes and community mental health centers.

The program's objectives include preparing the entry-level worker, providing education and training to upgrade the skills and knowledge of those currently employed, and providing development and enhancement of skills.

The Associate of Science degree requires 65 credits. Students will take the required General Education, Technical Core, Regionally Determined Courses plus either the Generalist, Mental Health, or Substance Abuse Specialty courses to earn their Associate of Science degree.

## **Degrees Available**

Associate of Applied Science – 62 credits

Associate of Science – 65 credits

## ASSOCIATE OF SCIENCE

To receive this degree, you must earn 65 credits.

<b>General Education Core</b>			<b>24 credits</b>
SIL	101	Introductory Biology OR	
SPS	101	Physical Science	3
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
APO	111	American National Government	3
APS	142	General Psychology	3
ASO	151	Principles of Sociology	3
<b>English or Humanities Elective (choose one)</b>			
HEW	108	Technical Writing	3
HUM	101	Survey of Humanities	3
HPP	111	Introduction to Philosophy	3
<b>Technical Core</b>			<b>15 credits</b>
HMS	101	Introduction to Human Services	3
HMS	102	Helping Relationship Techniques	3
HMS	103	Interviewing and Assessment	3
HMS	205	Behavior/Reality Techniques	3
HMS	206	Group Process and Skills	3
<b>Regionally Determined Courses – Internship and Seminars</b>			<b>14 credits</b>
HMS	201	Internship I	4
HMS	202	Internship II	4
HMS	xxx	Human Service Elective	3
HMS	xxx	Human Service Elective	3
<b>Choose one of the following specialties:</b>			
<b>Generalist Specialty</b>			<b>12 credits</b>
CIS	101	Introduction to Microcomputers	3
APS	201	Developmental Psychology	3
HMS	xxx	Human Service Elective	3
HMS	xxx	Human Service Elective	3
<b>Mental Health Specialty</b>			<b>12 credits</b>
HMS	104	Crisis Intervention	3
HMS	220	Issues and Ethics in Human Services OR	
HMS	113	Problems of Substance Abuse OR	
HMS	140	Loss and Grief	3
APS	201	Developmental Psychology	3
APS	249	Abnormal Psychology	3
<b>Substance Abuse Specialty</b>			<b>12 credits</b>
HMS	113	Problems of Substance Abuse in Society	3
HMS	208	Treatment Models in Substance Abuse	3
HMS	209	Counseling Issues in Substance Abuse	3
HMS	210	Issues in Substance Abuse in Family Systems	3

# ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 62 credits.

General Education Core			18 credits
SIL	101	Introductory Biology OR	
SPS	101	Physical Science	3
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
APO	111	American National Government	3
APS	142	General Psychology OR	
ASO	151	Principles of Sociology	3

Technical Core			18 credits
HMS	101	Introduction to Human Services	3
HMS	102	Helping Relationship Techniques	3
HMS	103	Interviewing and Assessment	3
HMS	205	Behavior/Reality Techniques	3
HMS	206	Group Process and Skills	3
HMS	207	Program Planning/Policy Issues	3

Regionally Determined Courses – Internship and Seminars			14 credits
HMS	201	Internship I	4
HMS	202	Internship II	4
HMS	xxx	Human Service Elective	3
HMS	xxx	Human Service Elective	3

Choose one of the following specialties:

Generalist Specialty			12 credits
CIS	101	Introduction to Microcomputers	3
APS	201	Developmental Psychology	3
HMS	xxx	Elective	3
HMS	xxx	Elective	3

Mental Health Specialty			12 credits
HMS	104	Crisis Intervention	3
HMS	220	Issues and Ethics in Human Services OR	
HMS	113	Problems of Substance Abuse OR	
HMS	140	Loss and Grief	3
APS	201	Developmental Psychology	3
APS	249	Abnormal Psychology	3

Substance Abuse Specialty			12 credits
HMS	113	Problems of Substance Abuse in Society	3
HMS	208	Treatment Models in Substance Abuse	3
HMS	209	Counseling Issues in Substance Abuse	3
HMS	210	Issues of Substance Abuse in Family Systems	3

## ASSOCIATE OF SCIENCE

For transfer to Indiana State University in Community Health.  
To receive this degree, you must earn 65 credits.

<b>General Education Core</b>			<b>27 credits</b>
SIL	101	Introductory Biology	3
HSS	143	Speech	3
HEW	101	English Composition I	3
HEW	108	Technical Writing	3
MAT	111	Intermediate Algebra	3
APO	111	American National Government	3
APS	142	General Psychology	3
APS	201	Developmental Psychology	3
ASO	151	Principles of Sociology	3
<b>Technical Core</b>			<b>38 credits</b>
CHD	123	Health, Safety and Nutrition OR	
CIS	101	Introduction to Microcomputers	3
HMS	101	Introduction to Human Services	3
HMS	102	Helping Relationship Techniques	3
HMS	103	Interviewing and Assessment	3
HMS	104	Crisis Intervention	3
HMS	201	Internship I	4
HMS	202	Internship II	4
HMS	205	Behavior/Reality Techniques	3
HMS	206	Group Process and Skills	3
HMS	207	Program Planning/Policy Issues	3
HMS	xxx	Human Service Elective	3
HMS	xxx	Human Service Elective	3

# Liberal Arts

## Specialties:

- English*
- History*
- Liberal Arts*
- Philosophy*
- Political Science*
- Pre-Law*
- Psychology*
- Sociology*

Graduates who communicate well, adapt to social and economic change, function as team players, analyze issues, and solve problems are vital in today’s workforce. Employers value individuals who understand the importance of lifelong learning, whether it’s on the job or in the classroom. A Liberal Arts education helps develop these qualities.

## Degrees Available

- Associate of Arts (This degree is from Vincennes University.)
- Associate of Science (This degree is from Vincennes University.)

## Associate of Arts and Associate of Science

These degrees and concentrations will provide opportunities for students at the Community College of Indiana (CCI) sites to pursue transfer education opportunities. These programs have long been included in the degree offerings of Vincennes University and now available to students through the CCI partnership. These degrees and concentrations are available to students who wish to enroll through the CCI partnership and later transfer to pursue a baccalaureate degree at a four-year college or university.

	Credit Hours - A.S.	A.A.
<b>General Education Requirements</b>		
<b>Basic Skills Core</b>	<b>9</b>	<b>9</b>
HEW 101 English Composition I -or-		
HEW 112 Rhetoric and Research <sup>1</sup> .....	3	3
SMA 101 Intermediate Algebra (or higher mathematics) .....	3	3
HSS 143 Speech.....	3	3

*The Reading, Writing and Speaking Intensive requirements may be met by major courses to be designated by your advisor.*

*The Mathematics Intensive requirement may be met by SMA 102 or a subsequent mathematics course or by passing a mathematics assessment examination.*

<b>Liberal Education Core</b>	<b>20</b>	<b>28</b>
HEW 102 English Composition II <sup>1</sup> .....	3	3
PFW 100 Lifetime Fitness/Wellness.....	2	2
Laboratory Science Elective – Common Core List .....	3	3
Humanities Elective – Common Core List <sup>1</sup> .....	3	3
Humanities Elective – Broad Core List .....	-	3
Social Science Electives – Core List .....	6	6
Humanities or Science/Mathematics Elective – Broad Core List.....	3	-
Foreign Language Electives .....	-	8

### Degree Related Concentrations

*(See the following pages for specific course requirements for these concentrations.)*

English Concentration .....	33	25
History Concentration.....	34	25
Liberal Arts Concentration .....	30	24
Philosophy Concentration.....	-	27
Political Science Concentration.....	34	28
Pre-Law Concentration.....	34	28
Psychology Concentration.....	34	28
Sociology Concentration .....	34	28

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<sup>1</sup> Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences: (1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and HEL 221 Introduction to World Literature I and II. If the latter option is chosen, HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core requirement.

# Academic Programs

1 Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences:  
(1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and HEL 221 Introduction  
to World Literature I and II. If the latter option is chosen, HEL 220 and 221 will satisfy the second writing requirement and the  
Humanities Common Core requirement.

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## History Concentration

This curriculum is designed to permit the student to begin a concentration in history that will lead eventually to a major in that field. History provides a good background for pre-law, government service, and teaching.

	Credit Hours - A.S.	A.A.		
<b>General Education Requirements</b>			<b>Recommended Sequence of Courses for A.S.</b>	<b>Recommended Sequence of Courses for A.A.</b>
<b>Basic Skills Core</b>			(This assumes any necessary developmental requirements have been met.)	(This assumes any necessary developmental requirements have been met.)
HEW 101 English Composition I -or-	9	9		
HEW 112 Rhetoric and Research <sup>1</sup> .....	3	3		
SMA 101 Intermediate Algebra -or-				
SMA 102 College Algebra.....	3	3		
HSS 143 Speech.....	3	3		
<i>The Reading Intensive requirement may be met by APO 201 or 211 or AEC 201.</i>			<b>Semester I</b>	<b>Semester I</b>
<i>The Writing Intensive requirement may be met by APO 201 or 211.</i>			AHI 235.....3	AHI 139/235.....3
<i>The Speaking Intensive requirement may be met by APO 211.</i>			HEW 101.....3	HEW 101.....3
<i>The Mathematics Intensive requirement may be met by SMA 102 or a subsequent mathematics course or by passing a mathematics assessment examination.</i>			HSS 143.....3	HSS 143.....3
			Soc Sci Elec.....3	Foreign Lang.....4
			Total Hours: 12	Elective.....1
				Total Hours: 14
<b>Liberal Education Core</b>			<b>Semester II</b>	<b>Semester II</b>
HEW 102 English Composition II <sup>1</sup> .....	3	3	AHI 236.....3	APO 201(R/W).....3
PFW 100 Lifetime Fitness/Wellness.....	2	2	APO 201(R/W).....3	HEW 102.....3
Laboratory Science Elective - Common Core List.....	3	3	HEW 102.....3	PFW 100.....2
Humanities Elective - Common Core List.....	3	3	PFW 100.....2	SMA 101/102.....3
Humanities Elective - Broad Core List.....	-	-	SMA 101/102.....3	Foreign Lang.....4
AEC 201 Microeconomics.....	-	-	Soc Sci Elec.....3	Total Hours: 15
AEC 202 Macroeconomics.....	-	-	Total Hours: 17	
Social Science Electives - Core List.....	6	3	<b>Semester III</b>	<b>Semester III</b>
Humanities or Science/Mathematics Elective - Broad Core List.....	3	8	AEC 201(R).....3	AEC 201(R).....3
Foreign Language Electives.....	-	-	AHI 139.....3	APO 111.....3
			APO 111.....3	ASO 151.....3
			ASO 151.....3	SES 207.....3
			SES 207.....3	Humanities Elec.....3
			Hum/Sci/Math Elective.....3	Total Hours: 15
			Total Hours: 18	
<b>Concentration Requirements</b>			<b>Semester IV</b>	<b>Semester IV</b>
AEC 201 Microeconomics.....	3	-	AEC 202.....3	AEC 202.....3
AEC 202 Macroeconomics.....	3	-	AHI 140.....3	AHI 125/ASO 254.....3
AHI 125 History of American Technology -or-			APO 211(R/W/S).....3	ASO 254.....3
ASO 254 Introduction to Archaeology.....	-	3	Humanities Elec.....3	AHI 140/236.....3
AHI 139 American History I -and/or-			Lab Science Elec.....3	APO 211(R/W/S).....3
AHI 235 World Civilization I.....	6	3	Total Hours: 15	Humanities Elec.....3
AHI 140 American History II -and/or-				Lab Science Elec.....3
AHI 236 World Civilization II.....	6	3		Total Hours: 18
APO 111 American National Government.....	3	3		
APO 201 Introduction to Political Science.....	3	3		
APO 211 Introduction to World Politics.....	3	3		
ASO 151 Principles of Sociology.....	3	3		
SES 207 World Geography.....	3	3		
Elective.....	-	1		
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1 Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences: (1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and 221 Introduction to World Literature I and II. If the latter option is chosen HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core Requirement. Students transferring to Indiana University should substitute HEW 210 Advanced Expository Writing for HEW 102.

## Liberal Arts Concentration

This broad-based curriculum provides the general education required of majors in many areas of concentration at the baccalaureate institutions to which they transfer.

		Credit Hours - A.S.	A.A.	
General Education Requirements				
<b>Basic Skills Core</b>				
HEW 101 English Composition I -or-	9	9	<b>Recommended Sequence of Courses for A.S.</b> (This assumes any necessary developmental requirements have been met.)	
HEW 112 Rhetoric and Research <sup>1</sup>	3	3		
SMA 101 Intermediate Algebra (or higher mathematics)	3	3		
HSS 143 Speech	3	3		
<i>The Reading, Writing and Speaking Intensive requirements may be met by HPP 212.</i>				
<i>The Mathematics Intensive requirement may be met by a subsequent mathematics course or by passing a mathematics assessment examination.</i>				
<b>Liberal Education Core</b>				
HEW 102 English Composition II -or-	23	31	<b>Semester I</b>	
HEW 210 Advanced Expository Writing <sup>1</sup>	3	3		
Computer Literacy Elective	3	3		
PFW 100 Lifetime Fitness/Wellness	2	2		
Laboratory Science Elective - Common Core List	3	3	HAH 110/HMM 118 .....3	
HEH 110 Introduction to Humanities I -or-			HEW 101 .....3	
HEL 220 Introduction to World Literature I -or-			HSS 143 .....3	
HEL 227 Introduction to World Fiction	3	3	For Lang/Elec .....6	
HEH 111 Introduction to Humanities II -or-			Total Hours: 15	
HEL 221 Introduction to World Literature II	3	3	<b>Semester II</b>	
AEC 201 Microeconomics -or-				HEW 102 .....3
ASO 151 Principles of Sociology	3	3		SMA 101 .....3
AEC 202 Macroeconomics -or-				For Lang/Elec .....6
ASO 252 Social Problems -or-			Lab Science Elec .....3	
ASO 245 Cultural Diversity	3	3	Total Hours: 15	
Intermediate Foreign Language	-	8	<b>Semester III</b>	
				AEC 201/ASO 151 .....3
				AHI 131/139 .....3
				HEH 110/HEL 220/227 .....3
			HPP 111 .....3	
			Intern For Lang .....4	
			Lab Sci Elec .....3	
			Total Hours: 16	
<b>Concentration Requirements</b>				
AHI 131 Survey of European History I -or-	30	24-26	<b>Semester IV</b>	
AHI 139 American History I	3	3		
AHI 132 Survey of European History II -or-				
AHI 140 American History II	3	3		
HAH 110 Art Appreciation -or-			AEC 202/ASO 245/252 .....3	
HMM 118 Music Appreciation	3	3	HEH 111/HEL 221 .....3	
HPP 111 Introduction to Philosophy	3	3	HPP 212(R/W/S) .....3	
HPP 212 Introduction to Ethics	3	3	PFW 100 .....2	
Laboratory Science Elective	3	3	Comp Lit Elec .....3	
Foreign Language -or- Electives <sup>2</sup>	12	6-8	Total Hours: 17	
		62	64-66	

1 Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences:

(1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and 221 Introduction to World Literature I and II. If the latter option is chosen HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core Requirement. Students transferring to Indiana University should substitute HEW 210 Advanced Expository Writing for HEW 102.

2 Foreign Language is not required for the A.S. degree; however, it is required of students transferring to Indiana University and Purdue University on this curriculum. Recommended electives include: APO 211 Introduction to World Politics, APO 212 Political Science Seminar, BMM 100 Introduction to Business, HEH 245 Cultural Diversity, HPP 213 Logic, HPP 220 Philosophy of Religion, SES 210 General Astronomy, and SMA 115 Survey of Calculus I.

## Philosophy Concentration

This curriculum prepares students planning to become professional philosophers for transfer to four-year institutions and completion of the baccalaureate degree in philosophy. Essentially a Liberal Arts program, it will also help prepare for graduate studies in law, theology, humanities, and other disciplines.

### General Education Requirements

#### Basic Skills Core

HEW 101	English Composition I -or-	9
HEW 112	Rhetoric and Research <sup>1</sup> .....	3
SMA 101	Intermediate Algebra (or higher mathematics) .....	3
HSS 143	Speech .....	3

*The Reading and Speaking Intensive requirements may be met by HPP 212.*

*The Writing Intensive requirement may be met by HPP 213.*

*The Mathematics Intensive requirement may be met by a subsequent mathematics course or by passing a mathematics assessment examination.*

#### Liberal Education Core

HEW 102	English Composition II <sup>1</sup> .....	3
PFW 100	Lifetime Fitness/Wellness .....	2
Laboratory Science Elective – Common Core List .....	3	3
HEL 220	Introduction to World Literature I .....	3
HEL 221	Introduction to World Literature II .....	3
APO 201	Introduction to Political Science -or-	
AEC 100	Elements of Economics .....	3
ASO 151	Principles of Sociology .....	3
Intermediate Foreign Languages <sup>2</sup> .....	8	8

*The Computer Skills requirement is met by Computers Across the Curriculum.*

### Concentration Requirements

AHI 131	Survey of European History I -or-	3
AHI 235	World Civilization I .....	3
AHI 132	Survey of European History II -or-	
AHI 236	World Civilization II .....	3
HAH 110	Art Appreciation -or-	
HMM 118	Music Appreciation .....	3
HEH 110	Introduction to Humanities I .....	3
HPP 111	Introduction to Philosophy .....	3
HPP 212	Introduction to Ethics .....	3
HPP 213	Logic .....	3
HPP 220	Philosophy of Religion .....	3
Science Elective .....	3	3

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### Credit Hours - A.A.

**Recommended Sequence of Courses**  
(This sequence assumes any necessary developmental requirements have been met.)

#### Semester I

AHI 131/235 .....	3
HEW 101 .....	3
HPP 111 .....	3
HSS 143 .....	3
Foreign Lang .....	4
<b>Total Hours:</b>	<b>16</b>

#### Semester II

AHI 132/236 .....	3
HEW 102 .....	3
HPP 212/R/S .....	3
PFW 100 .....	2
SMA 101 .....	3
Foreign Language .....	4
<b>Total Hours:</b>	<b>18</b>

#### Semester III

ASO 151 .....	3
HEH 110 .....	3
HEL 220 .....	3
HPP 220 .....	3
Lab Science Elec .....	3
<b>Total Hours:</b>	<b>15</b>

#### Semester IV

APO 201/AEC 100 .....	3
HEL 221 .....	3
HAH 110/HMM 118 .....	3
HPP 213/W .....	3
Science Elec .....	3
<b>Total Hours:</b>	<b>15</b>

1 Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences: (1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and 221 Introduction to World Literature I and II. If the latter option is chosen HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core Requirement. Students transferring to Indiana University should substitute HEW 210 Advanced Expository Writing for HEW 102.

2 Foreign Language is not required for the A.S. degree; however, it is required of students transferring to Indiana University and Purdue University on this curriculum. Recommended electives include: APO 211 Introduction to World Politics, APO 212 Political Science Seminar, BMM 100 Introduction to Business, HEH 245 Cultural Diversity, HPP 213 Logic, HPP 220 Philosophy of Religion, SES 210 General Astronomy, and SMA 115 Survey of Calculus I.

# Political Science Concentration

This curriculum is designed to permit the student to begin a concentration in political science that will lead eventually to a major in that field. Political science provides an excellent background for pre-law, public service, public relations, personnel work, investigation, or teaching.

	Credit Hours - A.S.	A.A.		
<b>General Education Requirements</b>			<b>Recommended Sequence of Courses for A.S.</b>	<b>Recommended Sequence of Courses for A.A.</b>
<b>Basic Skills Core</b>			(This assumes any necessary developmental requirements have been met.)	(This assumes any necessary developmental requirements have been met.)
HEW 101 English Composition I -or-	9	9		
HEW 112 Rhetoric and Research <sup>1</sup> .....	3	3		
SMA 101 Intermediate Algebra -or-				
SMA 102 College Algebra.....	3	3		
HSS 143 Speech.....	3	3		
<i>The Reading and Writing Intensive requirements may be met by APO 201 or APO 211.</i>			<b>Semester I</b>	<b>Semester I</b>
<i>The Speaking Intensive requirement may be met by APO 211.</i>			AHI 139 .....3	HEW 101 ..... 3
<i>The Mathematics Intensive requirement may be met by SMA 102 or a subsequent mathematics course or by passing a mathematics assessment examination.</i>			APO 112.....3	HSS 143..... 3
			HEW 101 .....3	Foreign Lang ..... 4
			Hum/Sci/Math	Humanities Elec. 3
			Elective ..... 3	Elective ..... 1
			Total Hours: 13	Total Hours: 14
			<b>Semester II</b>	<b>Semester II</b>
			AHI 140 .....3	AHI 139/235 ..... 3
			HEW 102 .....3	HEW 102 ..... 3
			HSS 143 .....3	PFW 100 ..... 2
			PFW 100 .....2	SMA 101/102 ..... 3
			SMA 101/102.....3	Foreign Lang ..... 4
			Lab Science Elec... 3	Lab Science Elec .. 3
			Total Hours: 17	Total Hours: 18
			<b>Semester III</b>	<b>Semester III</b>
			AEC 201(R).....3	AEC 201(R)..... 3
			AHI 235 .....3	APO 201(R/W)..... 3
			APO 201(R/W).....3	APO 210 ..... 3
			APO 210.....3	APO 220 ..... 3
			APO 220.....3	SES 207 ..... 3
			SES 207.....3	Total Hours: 15
			Total Hours: 18	
			<b>Semester IV</b>	<b>Semester IV</b>
			AEC 202.....3	AEC 202..... 3
			AHI 236 .....3	AHI 140/236 ..... 3
			APO 111.....3	APO 111/112 ..... 3
			APO 211(R/W/S).....3	APO 211(R/W/S) .... 3
			Humanities Elec ... 3	Humanities Elec..... 3
			Total Hours: 15	Total Hours: 15
<b>Liberal Education Core</b>	<b>20</b>	<b>28</b>		
HEW 102 English Composition II <sup>1</sup> .....	3	3		
PFW 100 Lifetime Fitness/Wellness.....	2	2		
Laboratory Science Elective - Common Core List .....	3	3		
Humanities Elective - Common Core List .....	3	3		
Humanities Elective - Broad Core List .....	-	3		
AEC 201 Microeconomics .....	3	3		
AEC 202 Macroeconomics.....	3	3		
Humanities or Science/Mathematics Elective -				
Broad Core List .....	3	-		
Foreign Language Electives .....	-	8		
<i>The Computer Skills requirement is met by Computer Across the Curriculum.</i>				
<b>Concentration Requirements</b>	<b>33</b>	<b>25</b>		
AHI 139 American History I -and/or-				
AHI 235 World Civilization I.....	6	3		
AHI 140 American History II -and/or-				
AHI 236 World Civilization II.....	6	3		
APO 111 American National Government and/or-				
APO 112 State and Local Government <sup>2</sup> .....	6	3		
APO 201 Introduction to Political Science.....	3	3		
APO 210 Personal Law .....	3	3		
APO 211 Introduction to World Politics .....	3	3		
APO 220 Public Administration.....	3	3		
SES 207 World Geography .....	3	3		
Elective.....	-	1		
	<b>62</b>	<b>62</b>		

1 Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences: (1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and 221 Introduction to World Literature I and II. If the latter option is chosen HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core Requirement. Students transferring to Indiana University should substitute HEW 210 Advanced Expository Writing for HEW 102.

2 A.S. students must complete both APO 111 and 112.



## Pre-Law Concentration

There is no single course of study for pre-law majors. Law schools generally desire superior students who have completed a liberal arts program, but a large number of law students come from schools of business. Political science provides a good major, and business, history, English, mathematics, psychology, philosophy and economics are good minors. The program below is essentially a liberal arts curriculum.

		Credit Hours - A.S.	A.A.		
<b>General Education Requirements</b>				<b>Recommended Sequence of Courses for A.S.</b>	<b>Recommended Sequence of Courses for A.A.</b>
<i>Basic Skills Core</i>				(This assumes any necessary developmental requirements have been met.)	(This assumes any necessary developmental requirements have been met.)
HEW 101	English Composition I -or-	9	9	<b>Semester I</b>	<b>Semester I</b>
HEW 112	Rhetoric and Research <sup>1</sup>	3	3	AHI 139 .....3	AHI 139 .....3
SMA 101	Intermediate Algebra -or-			HEW 101 .....3	HEW 101 .....3
SMA 102	College Algebra	3	3	Lab Sci Elec .....3	Foreign Lang .....4
HSS 143	Speech	3	3	Elective .....3	Lab Sci Elec .....3
				Total Hours: 12	Total Hours: 13
<i>The Reading and Writing Intensive requirements may be met by APO 201 or 211.</i>				<b>Semester II</b>	<b>Semester II</b>
<i>The Speaking Intensive requirement may be met by APO 211.</i>				AHI 140 .....3	AHI 140 .....3
<i>The Mathematics Intensive requirement may be met by SMA 102 or a subsequent mathematics course or by passing a mathematics assessment examination.</i>				APO 111 .....3	APO 111 .....3
				HEW 102 .....3	HEW 102 .....3
<b>Liberal Education Core</b>		20	28	PFW 100 .....2	PFW 100 .....2
HEW 102	English Composition II <sup>1</sup>	3	3	SMA 101/102 .....3	SMA 101/102 .....3
PFW 100	Lifetime Fitness/Wellness	2	2	Elective .....3	Foreign Lang .....4
Laboratory Science Elective - Common Core List		3	3	Total Hours: 17	Total Hours: 18
Literature Elective - Common Core List		3	3	<b>Semester III</b>	<b>Semester III</b>
Literature Elective - Broad Core List		3	3	AEC 201 .....3	AEC 201 .....3
AEC 201	Microeconomics	3	3	AHI 235 .....3	AHI 235 .....3
AEC 202	Macroeconomics	3	3	APO 201(R/W) .....3	APO 201(R/W) .....3
Foreign Language Electives		-	8	HSS 143 .....3	HSS 143 .....3
				Literature Elec .....3	Literature Elec .....3
				Total Hours: 15	Total Hours: 15
<i>The Computer Skills requirement is met by Computers Across the Curriculum.</i>				<b>Semester IV</b>	<b>Semester IV</b>
<b>Concentration Requirements</b>		33	27	AEC 202 .....3	AEC 202 .....3
AHI 139	American History I	3	3	AHI 236 .....3	AHI 236 .....3
AHI 140	American History II	3	3	APO 210 .....3	APO 210 .....3
AHI 235	World Civilization I	3	3	APO 211(R/W/S) .....3	APO 211(R/W/S) .....3
AHI 236	World Civilization II	3	3	APS 142 .....3	APS 142 .....3
APO 111	American National Government	3	3	Literature Elec .....3	Literature Elec .....3
APO 201	Introduction to Political Science	3	3	Total Hours: 18	Total Hours: 18
APO 210	Personal Law	3	3		
APO 211	Introduction to World Politics	3	3		
APS 142	General Psychology	3	3		
Electives		6	-		
		62	64		

1 Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences: (1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and 221 Introduction to World Literature I and II. If the latter option is chosen HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core Requirement. Students transferring to Indiana University should substitute HEW 210 Advanced Expository Writing for HEW 102.

# Academic Programs

*The Reading, Writing and Speaking Intensive requirements may be met by APS 249.*  
*The Mathematics Intensive requirement may be met by SMA 102 or a subsequent mathematics course or by passing a mathematics assessment examination.*

1 Students not qualifying for HEW 112 must satisfy the writing requirements by completing either of the following course sequences: (1) HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and 221 Introduction to World Literature I and II. If the latter option is chosen HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core Requirement. Students transferring to Indiana University should substitute HEW 210 Advanced Expository Writing for HEW 102.

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## Sociology Concentration

This curriculum is designed to provide students with the first two years of an academic program specializing in preparing students for professional career positions in local, state, or national government and/or governmental agencies. The program is designed to transfer to Ball State University, Indiana State University, and Indiana University.

	Credit Hours - A.S.	A.A.		
<b>General Education Requirements</b>			<b>Recommended Sequence of Courses for A.S.</b>	<b>Recommended Sequence of Courses for A.A.</b>
<b>Basic Skills Core</b>			(This assumes any necessary developmental requirements have been met.)	(This assumes any necessary developmental requirements have been met.)
HEW 101 English Composition I -or-	9	9		
HEW 112 Rhetoric and Research <sup>1</sup>	3	3		
SMA 101 Intermediate Algebra	3	3		
HSS 143 Speech	3	3		
<i>The Reading, Writing and Speaking Intensive requirements may be met by APO 211, APS 249 or ASO 245.</i>			<b>Semester I</b>	<b>Semester I</b>
<i>The Mathematics intensive requirement may be met by a subsequent mathematics course or by passing a mathematics assessment examination.</i>			AHI 139 .....3	APS 142.....3
			APS 142 .....3	ASO 151 .....3
			ASO 151 .....3	HEW 101 .....3
			HEW 101 .....3	PFW 100 .....2
			Total Hours: 12	Foreign Lang.....4
				Total Hours: 15
			<b>Semester II</b>	<b>Semester II</b>
<b>Liberal Education Core</b>			ASO 252.....3	ASO 254/200-Level
HEW 102 English Composition II <sup>1</sup>	3	3	ASO 254/200-Level	Soc Sci Elec .....3
PFW 100 Lifetime Fitness/Wellness	2	2	Soc Sci Elec .....3	HEW 102 .....3
Laboratory Science Elective - Common Core List	3	3	HEW 102 .....3	HSS 143 .....3
Humanities Elective - Common Core List	3	3	HSS 143 .....3	Foreign Lang.....4
Humanities Elective - Broad Core List	-	3	Hum/Sci/Math	Lab Science Elec.....3
AHI 139 American History I	3	3	Elective .....3	Total Hours: 16
AHI 140 American History II	3	3	Lab Science Elec.....3	
Humanities or Science/Mathematics Elective -	-	3	Total Hours: 18	
Broad Core List	3	-		
Foreign Language Electives	-	8	<b>Semester III</b>	<b>Semester III</b>
<i>The Computer Skills requirement is met by Computers Across the Curriculum.</i>			AEC 201/200-Level	AEC 201/200-Level
			Soc Sci Elec .....3	Soc Sci Elec .....3
			AHI 140 .....3	AHI 139 .....3
			APS 201 .....3	ASO 252 .....3
			SMA 101 .....3	SMA 101 .....3
			Humanities Elec.....3	Elective .....3
			PFW 100 .....2	Total Hours: 15
			Total Hours: 17	
			<b>Semester IV</b>	<b>Semester IV</b>
<b>Concentration Requirements</b>			AEC 202/200-Level	AEC 202/200-Level
AEC 201 Microeconomics -or-	3	3	Soc Sci Elec .....3	Soc Sci Elec .....3
200-Level Social Science Elective	3	3	ASO 154.....3	AHI 140 .....3
AEC 202 Macroeconomics -or-	3	3	ASO 253.....3	ASO 154 .....3
200-Level Social Science Elective	3	3	Electives .....6	ASO 253 .....3
APS 142 General Psychology	3	3	Total Hours: 15	Humanities Elec.....6
APS 201 Developmental Psychology	3	3		Total Hours: 18
ASO 151 Principles of Sociology	3	3		
ASO 154 Cultural Anthropology	3	3		
ASO 252 Social Problems	3	3		
ASO 253 Introduction to Social Psychology	3	3		
ASO 254 Introduction to Archaeology -or-	3	3		
200-Level Social Science Elective	3	3		
Directed Elective <sup>2</sup>	3	3		
Elective	3	-		
	62	64		

1HEW 101 and HEW 102 English Composition I and II, or (2) HEW 101 English Composition I, HEL 220 and HEL 221 Introduction to World Literature I and II. If the latter option is chosen, HEL 220 and 221 will satisfy the second writing requirement and the Humanities Common Core requirement. Students transferring to Indiana University should substitute HEW 210 Advanced Expository Writing for HEW 102.

2 Students must choose one of the following classes to meet intensive requirements APO 211 Introduction to Word Politics, APS 249 Abnormal Psychology or ASO 245 Cultural Diversity.

# Machine Tool Technology

## **Specialties:**

*Traditional*

*CO-HORT*

The Machine Tool Technology program is designed to prepare students for the metals manufacturing industry. Graduates from this program are employed as skilled machinists, CNC operators, programmers or tool and die makers. The curriculum offers a systematic approach to developing skills in milling, turning, precision grinding and CNC programming and machining. In addition to the technical subject in machining, proficiency in mathematics, communication, physics and basic computer skills is required.

The program offers two unique ways to obtain an A.A.S. in Machine Tool Technology. The traditional path allows the student to take prescribed courses when individual schedules and offered courses coincide. This type of program is important for students who work during the day. The second path offers a CO-HORT approach where students enroll full time during the day and finish their degree in four consecutive semesters. This path of instruction is more rigorous in terms of the time on task in the laboratories. The CO-HORT student will invest over 2000 hours in the instructional program leading to an Associate in Applied Science degree. The CO-HORT program was developed to the specifications of the Indianapolis Chapter of the National Tooling and Machine Association (NTMA). The program uses books and materials recommended by NTMA.

## **Degrees Available**

Associate of Applied Science

Traditional Specialty - 64 credits

CO-HORT Specialty - 73 credits

Technical Certificate - 33 credits



## ASSOCIATE OF APPLIED SCIENCE

### CO-HORT Specialty

To receive this degree, you must earn 73 credits.

General Education Core			19 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics	3
MAT	121	Geometry/Trigonometry	3
SIP	101	Physics I	4
AEC	100	Elements of Economics	3

Technical Core			18 credits
DSN	103	CAD Fundamentals	3
IDS	102	Introduction to Print Reading	3
MIT	260	Quality Control & Advanced Problem Solving	3
TEC	101	Manufacturing Processes	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3

Specialty Core - CO-HORT Specialty			36 credits
DCT	227	Geometric Dimensions and Tolerancing	3
WLD	208	Gas Tungsten Arc (TIG) Welding	3
MTT	101	Introduction to Machining	3
MTT	250	Introduction to Machining Practicum	3
MTT	208	CNC Programming I	3
MTT	209	CNC Programming II	3
MTT	240	Machine Operations I	3
MTT	251	Machine Operations I Practicum	3
MTT	241	Machine Operations II	3
MTT	252	Machine Operations II Practicum	3
MTT	242	CNC Machining	3
MTT	253	CNC Machining Practicum	3

ASSOCIATE OF APPLIED SCIENCE

Traditional Specialty

To receive this degree, you must earn 64 credits.

General Education Core			19 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
MAT	121	Geometry/Trigonometry	3
SIP	101	Physics I	4
xxx	xxx	Humanities/Social Science	3

Technical Core			18 credits
DSN	103	CAD Fundamentals	3
IDS	102	Introduction to Print Reading	3
MIT	260	Quality Control & Advanced Problem Solving	3
TEC	101	Manufacturing Processes	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3

Specialty Core - Traditional Specialty			27 credits
QSC	203	Metrology	3
MTT	102	Turning Processes	3
MTT	103	Milling Process	3
MTT	104	Machinery Handbook	3
MTT	204	Abrasive Processes	3
MTT	208	CNC Programming I	3
MTT	209	CNC Programming II	3
MTT	220	CAD/CAM I	3
MTT	221	CAD/CAM II	3

Recommended Electives			
AEC	100	Elements of Economics	3
HPP	111	Introduction to Philosophy	3
HPP	212	Introduction to Ethics	3
AHI	139	American History I	3

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## TECHNICAL CERTIFICATE

To receive this certificate you must earn 33 credits.

### General Education Core

**6 credits**

HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3

### Technical Core

**27 credits**

DSN	103	CAD Fundamentals	3
IDS	102	Introduction to Print Reading	3
TEC	101	Manufacturing Processes	3
TEC	102	Technical Graphics	3
TEC	104	Computer Fundamentals for Technology	3
MTT	102	Turning Processes	3
MTT	103	Milling Process	3
MTT	104	Machinery Handbook	3
MTT	204	Abrasive Processes	3

# Manufacturing and Industrial Technology

## **Specialties:**

*Heating, Ventilation/Air Conditioning*

*Industrial Maintenance*

*Welding*

The Manufacturing and Industrial Technology Program is a discipline devoted to the development of skills necessary for the installation, operation and maintenance of residential and industrial equipment and systems. The curriculum is broad-based and offers specialties, but focuses on the integration of each area as used in systemic applications. This requires proficiency in mathematics, communication, physics and basic computer skills, as well as the technical subject matter.

In laboratory applications of classroom study, each student uses the tools and instruments associated with the practice of the industrial technology specialty including volt-ohm meters, leak detectors, sonic diagnostic tools, pressure and level testing devices, preventive maintenance software programs, welding and brazing equipment, metallurgical testing instruments, hand tools, and electronic and precision measuring devices. The safe use of tools and materials is integrated into each course in the curriculum.

## **Degrees Available**

Associate of Applied Science – 64 credits

Technical Certificates – 39 credits

## ASSOCIATE OF APPLIED SCIENCE

### Heating, Ventilation and Air Conditioning Specialty

To receive this degree, you must earn 64 credits.

General Education Core			19 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
*MAT	121	Geometry/Trigonometry	3
*SIP	101	Physics I	4
xxx	xxx	Elective	3
Technical Core			18 credits
MIT	102	Introduction to Print Reading	3
MIT	106	Introduction to Workplace Safety	3
MIT	260	Advanced Problem Solving	3
TEC	101	Manufacturing Process	3
TEC	104	Computer Fundamentals for Technology	3
TEC	113	Basic Electricity	3
Heating, Air Conditioning, Refrigeration Specialty Core			12 credits
HEA	101	Heating Fundamentals	3
HEA	103	AC/Refrigeration I	3
HEA	104	Heating Service	3
*HEA	106	AC/Refrigeration II	3
Regionally Determined Core			15 credits
*MIT	205	Programmable Controllers I	3
*IDS	103	Motors and Motor Control	3
*HEA	202	Electrical Circuits and Controls	3
HEA	220	Distribution Systems	3
*HEA	221	Heat Pump and Cooling Service	3
General Education Electives			
AEC	101	Elements of Economics	3
AEC	201	Microeconomics	3
AEC	202	Macroeconomics	3
APO	111	American National Government	3
APS	142	General Psychology OR	
ASO	151	Principles of Sociology	3
ETH	101	Ethics	3
HPP	211	Intro to Philosophy	3

\*Prerequisite class required.

ASSOCIATE OF APPLIED SCIENCE

Industrial Maintenance Specialty

To receive this degree, you must earn 64 credits.

General Education Core			19 credits
HSS	143	Fundamentals of Public Speaking	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
MAT	121*	Geometry/Trigonometry	3
SIP	101*	Physics I (and Lab)	4
xxx	xxx	Elective	3
Technical Core			18 credits
MIT	102	Introduction to Print Reading	3
MIT	106	Introduction to Workplace Safety	3
MIT	260	Advanced Problem Solving	3
TEC	101	Manufacturing Processes	3
TEC	104	Computer Fundamentals for Technology	3
TEC	113	Basic Electricity	3
Specialty Core			12 credits
*IDS	103	Motors and Motor Controls	3
IDS	104	Fluid Power Basics	3
IMT	203	Machine Maintenance & Installation	3
*MIT	205	Programmable Controllers I	3
Locally Determined Courses (choose 5)			15 credits
*IMT	107	Preventive Maintenance	3
IMT	122	Wiring Fundamentals - Commercial	3
*IMT	201	Fluid Power Systems	3
*IMT	207	Electrical Circuits	3
*IMT	210	Pumps	3
**IMT	288	Electrical Trouble-Shooting	3
**IMT	288	National Electrical Code	3
WLD	xxx	Welding Elective - Approved by Advisor	3
*Prerequisite class required.			
**IMT 207 or advisor approval required.			
General Education Electives			
AEC	101	Elements of Economics	3
AEC	201	Microeconomics	3
AEC	202	Macroeconomics	3
APO	111	American National Government	3
APS	142	General Psychology OR	
ASO	151	Principles of Sociology	3
ETH	101	Ethics	3
HPP	211	Intro to Philosophy	3

\*Prerequisite class required.  
\*\*IMT 207 or advisor approval required.

## TECHNICAL CERTIFICATES

### Heating, Ventilation and Air Conditioning Specialty

To receive these certificates, you must earn 39 credits.

<b>General Education Core</b>			<b>6 credits</b>
HSS	148	Interpersonal Communication	3
xxx	xxx	Elective	3
<b>Technical Core</b>			<b>3 credits</b>
IDS	102	Introduction to Print Reading	3
<b>Specialty Core</b>			<b>6 credits</b>
HEA	101	Heating Fundamentals	3
HEA	103	A/C and Refrigeration I	3
<b>Regionally Determined Core</b>			<b>24 credits</b>
HEA	104	Heating Service	3
*HEA	106	A/C and Refrigeration II	3
HEA	107	Duct Fabrication	3
*HEA	202	Electrical Circuits and Controls	3
*HEA	221	Heat Pump and Cooling Service	3
*IDS	103	Motors and Motor Controls	3
TEC	104	Computer Fundamentals for Technicians	3
TEC	113	Basic Electricity	3
<b>General Education Electives</b>			
AEC	101	Elements of Economics	3
AEC	201	Microeconomics	3
AEC	202	Macroeconomics	3
APO	111	American National Government	3
APS	142	General Psychology OR	
ASO	151	Principles of Sociology	3
ETH	101	Ethics	3
HPP	211	Introduction to Philosophy	3

\*Prerequisite class required.

# TECHNICAL CERTIFICATES

## Industrial Maintenance Specialty

To receive these certificates, you must earn 39 credits.

<b>General Education Core (choose 2)</b>			<b>6 credits</b>
HEW	101	English Composition I	3
HSS	143	Speech	3
MAT	111	Intermediate Algebra	3
<b>Technical Core</b>			<b>3 credits</b>
MIT	102	Introduction to Print Reading	3
<b>Specialty Core</b>			<b>6 credits</b>
IDS	104	Fluid Power Basics	3
TEC	113	Basic Electricity	3
<b>Locally Determined Courses - (choose eight)</b>			<b>24 credits</b>
*IDS	103	Motors and Motor Controls	3
*IMT	107	Preventive Maintenance	3
*IMT	201	Fluid Power Systems	3
IMT	203	Machine Maintenance and Installation	3
*IMT	207	Electrical Circuits	3
**IMT	288	National Electrical Code (NEC)	3
MIT	106	Millwright 1	3
*MIT	205	Programmable Controllers	3
MIT	260	Advanced Problem Solving	3
TEC	104	Computer Fundamentals for Technology	3
WLD	xxx	Welding Elective Approved by Advisor	3

\*Prerequisite class required.  
 \*\*IMT 207 or advisor approval required



## TECHNICAL CERTIFICATES

### Welding Specialty

To receive these certificates, you must earn 39 credits.

<b>General Education Core</b>			<b>6 credits</b>
HSS	148	Interpersonal Communication	3
xxx	xxx	Elective	3
<b>Technical Core</b>			<b>3 credits</b>
MIT	102	Introduction to Print Reading	3
<b>Specialty Core</b>			<b>6 credits</b>
WLD	108	Shielded Metal Arc Welding I	3
WLD	207	Gas Metal Arc (MIG) Welding	3
<b>Regionally Determined Core</b>			<b>24 credits</b>
TEC	113	Basic Electricity	3
WLD	109	Oxyacetylene Gas Welding and Cutting	3
*WLD	211	Welding Fabrication	3
WLD	120	Metallurgy Fundamentals	3
*WLD	203	Pipe Welding	3
*WLD	206	Shielded Metal Arc Welding II	3
WLD	208	Gas Tungsten Arc (TIG) Welding	3
*WLD	209	Welding Certification	3
<b>General Education Electives</b>			
AEC	101	Elements of Economics	3
AEC	201	Microeconomics	3
AEC	202	Macroeconomics	3
APO	111	American National Government	3
APS	142	General Psychology OR	
ASO	151	Principles of Sociology	3
ETH	101	Ethics	3
HPP	211	Introduction to Philosophy	3

\*Prerequisite class required.

# Medical Assistant

A graduate of the Medical Assistant Program is a professional, multi-skilled health care provider dedicated to assisting in patient care management in ambulatory care settings. The practitioner performs administrative and clinical duties and may manage emergency situations, facilities, and/or personnel. Competence in the field also requires that a Medical Assistant display professionalism, communicate effectively, and provide instruction to patients. A required externship provides valuable on-the-job experience.

- The Ivy Tech Medical Assisting program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE).
- Graduates of the Medical Assistant Generalist Programs will be prepared to take the Certification Examination of the American Association of Medical Assistants (AAMA) to obtain Certified Medical Assistant (CMA) status that is recognized nationally.
- The two-year Associate of Applied Science program requires 63 credits for completion. The Technical Certificate requires 30 to 48 credits, depending upon the selected specialty.
- Salary range for Medical Assistants is from \$9.50 to \$14.50 per hour depending upon education, experience and area of specialty.
- The Medical Assistant Program works in cooperation with private physicians offices, health maintenance organizations, and immediate care centers to provide clinical and administrative experiences for students.
- A one-year, part-time limited radiology curriculum is available to medical assistant graduates, leading to an opportunity to sit for the IDH Limited General Certificate Examination in radiography.
- Passing this exam qualifies the Limited General Technologist to perform general radiography in non-hospital settings. The salary range is \$11.00 to \$14.50 per hour.

## Degrees Available

- Associate of Applied Science – 63 credits
- Technical Certificate – 48 credits

## Average Salary

\$21,000 based upon total salaries reported by graduate respondents

# ASSOCIATE OF APPLIED SCIENCE

## Generalist Specialty

To receive this degree, you must earn 63 credits.

General Education Core			18 credits
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
HEW	101	English Composition I	3
xxx	xxx	English/Communication Elective	3
(HSS 148 Interpersonal Communications is recommended)			
MAT	xxx	Math Elective	3
(MAT 111 Algebra is recommended)			
xxx	xxx	Humanities/Social/Physical Science Elective	3
(APS 142 General Psychology is recommended)			

Recommendations for electives are chosen to be best suited for the CMA examination at the end of the program.

Technical Core			18 credits
HHS	101	Medical Terminology	3
HHS	105	Medical Law and Ethics	3
MEA	113	Pharmacology	3
MEA	131	Medical Financial Management	
		with Computer Applications	3
MEA	136	Office Administration with Computer Applications	3
MEA	203	Disease Conditions	3
Specialty Core			21 credits
MEA	114	M.A. Lab Techniques	3
MEA	120	M.A. Clinical Externship	3
MEA	121	M.A. Administrative Externship	3
MEA	135	Medical Word Processing/Transcription	3
MEA	137	Medical Insurance and Basic Coding	
		with Computer Applications	3
MEA	138	Clinical I	3
MEA	139	Clinical II	3
Regional Electives (see list)			6 credits
*xxx	xxx	Administrative Electives	3
*xxx	xxx	Clinical Electives	3

\* Per approval of program chair

Please keep in mind that ONLY the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students graduating with a specialty TC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

TECHNICAL CERTIFICATE

Administrative Specialty

To receive this certificate, you must earn 30 credits.

<b>General Education Core</b>			<b>6 credits</b>
xxx	xxx	English/Communications Elective	3
xxx	xxx	Math/Humanities/Social/Physical Science Elective	3
(APS 142 General Psychology is recommended)			
<b>Technical Core</b>			<b>3 credits</b>
HHS	101	Medical Terminology	3
<b>Specialty Core</b>			<b>6 credits</b>
HHS	105	Medical Law and Ethics	3
MEA	136	Office Administration with Computer Applications	3
<b>Regionally determined courses</b>			<b>15 credits</b>
MEA	131	Medical Financial Management with Computer Applications	3
MEA	135	Medical Word Processing/Transcription	3
MEA	137	Medical Insurance and Basic Coding with Computer Applications	3
MEA	227	Advanced Administrative Procedures	3
MEA	xxx	Medical Assisting Elective	3

There are other courses that will aid in gaining skills in this area. These courses are optional and do not count toward the degree requirements for this certificate. These courses would count towards the next higher level of the medical assisting program should you choose to further your education in the field. Please check with the program chair for further information. Students are also encouraged to complete the optional externship for this certificate; although it is not required it could be helpful in gaining employment in the field upon graduation. Externships are an excellent way to gain experience in the field.

Please keep in mind that ONLY the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students graduating with a specialty TC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

## TECHNICAL CERTIFICATE

### Clinical Specialty

To receive this certificate, you must earn 30 credits.

<b>General Education Core</b>	<b>6 credits</b>
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xxx	xxx	English/Communications Elective	3
(HSS 148 Interpersonal Communications is recommended)			
xxx	xxx	Math/Hum/Soc/Physical Science Elective	3
(APS 142 General Psychology or a lab science class is recommended)			

<b>Technical Core</b>	<b>3 credits</b>
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HHS	101	Medical Terminology	3
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<b>Specialty Core</b>	<b>6 credits</b>
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ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3

<b>Regionally determined courses</b>	<b>15 credits</b>
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MEA	113	Pharmacology	3
MEA	114	Medical Assisting Lab Techniques	3
MEA	138	Clinical I	3
MEA	139	Clinical II	3
MEA	212	Phlebotomy	3

There are other courses that will aid in gaining skills in this area. These courses are optional and do not count toward the degree requirements for this certificate. These courses would count towards the next higher level of the medical assisting program should you choose to further your education in the field. Please check with the program chair for further information. Students are also encouraged to complete the optional externship for this certificate; although it is not required it could be helpful in gaining employment in the field upon graduation. Externships are an excellent way to gain experience in the field.

There are first aid and CPR certification requirements for this TC-please see the program chair for further information.

Please keep in mind that **ONLY** the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students graduating with a specialty TC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

TECHNICAL CERTIFICATE

Generalist Specialty

To receive this certificate, you must earn 48 credits.

<b>General Education Core</b>			<b>6 credits</b>
xxx	xxx	English/Communications Elective	3
(HEW 101 English Composition I is recommended)			
xxx	xxx	Math/Hum/Soc/Physical Science Elective	3
(APS 142 General Psychology is recommended)			
***Recommendations for electives are chosen to be best suited for the CMA examination at the end of the program.***			

<b>Technical Core</b>			<b>3 credits</b>
HHS	101	Medical Terminology	3

<b>Specialty Core</b>			<b>39 credits</b>
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
HHS	105	Medical Law and Ethics	3
MEA	113	Pharmacology	3
MEA	114	Medical Assisting Lab Techniques	3
MEA	120	Medical Assisting Clinical Externship	3
MEA	121	Medical Assisting Administrative Externship	3
MEA	131	Medical Financial Management with Computer Applications	3
MEA	135	Medical Word Processing/Transcription	3
MEA	136	Office Administration with Computer Applications	3
MEA	137	Medical Insurance and Basic Coding with Computer Applications	3
MEA	138	Clinical I	3
MEA	139	Clinical II	3

There are other courses that will aid in gaining skills in this area. These courses are optional and do not count toward the degree requirements for this certificate. These courses would count towards the next higher level of the medical assisting program should you choose to further your education in the field. Please check with the program chair for further information. Students are also encouraged to complete the optional externship for this certificate; although it is not required it could be helpful in gaining employment in the field upon graduation. Externships are an excellent way to gain experience in the field.

There are first aid and CPR certification requirements for this TC-please see the program chair for further information.

Please keep in mind that ONLY the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students graduating with a specialty TC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

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## TECHNICAL CERTIFICATE

### Medical Office Insurance and Coding Specialty

To receive this certificate, you must earn 30 credits.

<b>General Education Core</b>			<b>6 credits</b>
xxx	xxx	English/Communications Elective	3
xxx	xxx	Math/Hum/Soc/Physical Science Elective	3
(MAT 111 Algebra is recommended)			
<b>Technical Core</b>			<b>3 credits</b>
HHS	101	Medical Terminology	3
<b>Specialty Core</b>			<b>6 credits</b>
HHS	105	Medical Law and Ethics	3
MEA	136	Office Administration with Computer Applications	3
<b>Regionally determined courses</b>			<b>15 credits</b>
MEA	137	Medical Insurance and Basic Coding with Computer Applications	3
MEA	203	Disease Conditions	3
MEA	213	Advanced Insurance Coding	3
MEA	215	Advanced Medical Terminology	3
MEA	xxx	Medical Assisting Elective	3

There are other courses that will aid in gaining skills in this area. These courses are optional and do not count toward the degree requirements for this certificate. These courses would count towards the next higher level of the medical assisting program should you choose to further your education in the field. Please check with the program chair for further information. Students are also encouraged to complete the optional externship for this certificate; although it is not required it could be helpful in gaining employment in the field upon graduation. Externships are an excellent way to gain experience in the field.

Please keep in mind that **ONLY** the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students graduating with a specialty TC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

TECHNICAL CERTIFICATE

Pharmacy Technician Specialty

To receive this certificate, you must earn 32 credits.

General Education Core			6 credits
xxx	xxx	English/Communications Elective	3
xxx	xxx	Math/Hum/Soc/Physical Science Elective	3
(MAT 111 is recommended)			

Technical Core			3 credits
HHS	101	Medical Terminology	3

Generalist Specialty Core			23 credits
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
MEA	136	Office Administration with Computer Applications	3
HHS	105	Medical Law and Ethics	3
MEA	113	Pharmacology	3
MEA	151	Pharmacy Technician I	3
MEA	152	Pharmacy Technician II	3
MEA	154	Pharmacy Externship	2

Please keep in mind that ONLY the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a Medical Assistant. Students graduating with a specialty TC ARE NOT eligible to sit for the Certified Medical Assistant (CMA) exam.

Students graduating with the pharmacy technician specialty TC are eligible to become certified as a pharmacy technician. To obtain certification, the student must successfully complete all course requirements above and successfully complete the certification exam. Please see the program chair for more information.



## TECHNICAL CERTIFICATE

### Medical Office Transcription Specialty

To receive this certificate, you must earn 30 credits.

<b>General Education Core</b>		<b>6 credits</b>
xxx	xxx English/Communications Elective (HEW 101 English Composition I is recommended)	3
xxx	xxx Math/Hum/Soc/Physical Science Elective	3
<b>Technical Core</b>		<b>3 credits</b>
HHS	101 Medical Terminology	3
<b>Specialty Core</b>		<b>6 credits</b>
HHS	105 Medical Law and Ethics	3
MEA	136 Office Administration with Computer Applications	3
<b>Regionally determined courses</b>		<b>15 credits</b>
MEA	113 Pharmacology	3
MEA	135 Medical Word Processing/Transcription	3
MEA	203 Disease Conditions	3
MEA	235 Advanced Transcription	3
MEA	xxx Medical Assisting Elective	3

There are other courses that will aid in gaining skills in this area. These courses are optional and do not count toward the degree requirements for this certificate. These courses would count towards the next higher level of the medical assisting program should you choose to further your education in the field. Please check with the program chair for further information. Students are also encouraged to complete the optional externship for this certificate; although it is not required it could be helpful in gaining employment in the field upon graduation. Externships are an excellent way to gain experience in the field.

Please keep in mind that **ONLY** the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students graduating with a specialty TC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

TECHNICAL CERTIFICATE

Phlebotomy Specialty

To receive this certificate, you must earn 30 credits.

<b>General Education Core</b>		<b>6 credits</b>
xxx	xxx English/Communications Elective (HSS 148 Interpersonal Communications is recommended)	3
xxx	xxx Math/Hum/Soc/Physical Science Elective (APS 142 General Psychology or a lab science class is recommended)	3

<b>Technical Core</b>		<b>3 credits</b>
HHS	101 Medical Terminology	

<b>Specialty Core</b>		<b>6 credits</b>
ANP	101 Anatomy and Physiology I	3
ANP	102 Anatomy and Physiology II	3

<b>Regionally determined courses</b>		<b>15 credits</b>
MEA	113 Pharmacology	3
MEA	114 Medical Assisting Lab Techniques	3
MEA	203 Disease Conditions	3
MEA	212 Phlebotomy	3
MEA	xxx Medical Assisting Elective	3

There are other courses that will aid in gaining skills in this area. These courses are optional and do not count toward the degree requirements for this certificate. These courses would count towards the next higher level of the medical assisting program should you choose to further your education in the field. Please check with the program chair for further information. Students are also encouraged to complete the optional externship for this certificate; although it is not required it could be helpful in gaining employment in the field upon graduation. Externships are an excellent way to gain experience in the field.

There are first aid and CPR certification requirements for this TC-please see the program chair for further information.

Please keep in mind that ONLY the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students graduating with a specialty TC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

Students graduating with the Phlebotomy Specialty TC are eligible to become certified as a phlebotomist. To obtain certification, the student must complete the required externship hours in addition to the courses listed above and successfully complete the certification exam. Please see the program chair for more information.

## CAREER DEVELOPMENT CERTIFICATE

### Medical Office EKG Specialty

To receive this certificate, you must earn 15 credits.

Required Courses			15 credits
HHS	101	Medical Terminology	3
ANP	101	Anatomy and Physiology I	3
MEA	113	Pharmacology	3
MEA	209	Basic EKG and Interpretation	3
MEA	212	Phlebotomy	3

There are other courses that will aid in gaining skills in this area. These courses are optional and do not count toward the degree requirements for this certificate. These courses would count towards the next higher level of the medical assisting program should you choose to further your education in the field. Please check with the program chair for further information.

There are first aid and CPR certification requirements for this CDC-please see the program chair for further information.

Please keep in mind that ONLY the generalist MEA-AAS degree and the generalist MEA-TC degree lead to certification as a medical assistant. Students completing a CDC are not eligible to sit for the Certified Medical Assistant (CMA) exam.

## ELECTIVES

### Clinical Electives

ADP	805	Nurse Aide Procedure and Practice	3
ANP	201	Advanced Physiology	4
SIL	211	Micro for Health Professionals I	4
SIC	101	Chemistry I	3
PAR	102	EMT-Basic Training	7.5
RAD	103	Radiographic Positioning I	3
RAD	107	Radiation Physics	3
RAD	288	Pharmacology and Routines of Radiologic Technologists	3

### Administrative Electives

ACC	101	Accounting I	3
ACC	105	Income Tax I	3
ACC	107	Accounting for Record Keeping	3
ACC	114	Payroll Accounting Lab	1
ACC	222	Accounting Software Applications	3
AOT	103	Information/Word Processing Concepts	3
AOT	116	Business Communications	3
AOT	119	Document Production	3
AOT	202	Information/Word Processing Applications	3
AOT	207	Office Automation Applications	3
AOT	212	Micro Word Processing	3
AOT	214	Desktop Publishing	3
AOT	220	Document Management	3
AOT	221	Office Management and Procedures	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	105	Principles of Management	3
BUS	202	Human Resource Management	3
BUS	204	Case Problems in Management	3
BUS	208	Organizational Behavior	3
BUS	210	Managerial Finance	3
CIS	101	Introduction to Microcomputers	3
CIS	102	Data Processing Fundamentals	3
CIS	106	Microcomputer Operating Systems	3
CIS	113	Logic, Design and Program	3
CIS	115	Electronic Spreadsheets in Business	3
CIS	202	Data Communications	3
HSS	101	Speech	3
AEC	101	Elements of Economics	3
HEW	102	English Composition II	3
HEW	108	Technical Writing	3
HHS	106	Technical Writing	3
LEG	106	Claims Investigation	3
MKT	101	Principles of Marketing	3

## Medical Assisting Admissions Procedure

In order to be admitted to the Medical Assisting Program, you **MUST** meet the following conditions:

**Step 1** See the health counselor in admissions to begin the process of being admitted to Ivy Tech.

**Step 2** Based on your placement testing you must complete any basic skills courses that you are required to take. This includes

Reading	Writing	Math
ENG 031	ENG 024	See Step 3
ENG 032	ENG 025	

**Step 3** ALL Medical Assisting students **MUST** complete MAT 044 **BEFORE** taking any MEA courses (if your testing indicates this). AAS students may take MAT 050 before OR during the first semester of the program (if your testing indicates this).

**Step 4** Students are strongly advised to take BIO 065 for the following situations:

- \*you have never taken a science class before or you don't like science
- \*you only took one science class in high school
- \*you have failed a previous science class
- \*you have been out of school for more than 5 years

Please note that BIO 065 is **NOT REQUIRED**. You do **NOT HAVE** to take it. If you choose to take it, the credits DO **NOT** count toward the Medical Assisting certificate or degree. It is a refresher course **ONLY** to **HELP** to **PREPARE** students for ANP I and ANP II as these are difficult courses.

In summary, you **MUST** complete **ALL BASIC SKILLS** courses that you are required to take or are choosing to take **BEFORE** you are admitted to the Medical Assisting program and **BEFORE** you may begin taking MEA courses! Again, these courses include:

ENG 024

ENG 025

ENG 031

ENG 032

MAT 044

MAT 050.....may be taken in the first semester of the AAS program

BIO 065.....if you choose to take it.....must be done prior to ANP I

These 3 HHS courses may be taken with the basic skills if you choose courses prior to program admission if you choose:

HHS 101 Medical Terminology

HHS 105 Medical Law and Ethics

MEA 102 First Aid/CPR

**Step 5** All Medical Assisting candidates **MUST** complete ANP 101 with a C or better no later than the first semester of the program. All Basic Skills courses must be completed before taking ANP 101. When you are ready to register for ANP 101 you will register with the program chair. Please make an appointment with the program chair during **EARLY REGISTRATION** for the semester you wish to take ANP 101. If you do not do this during early registration, you will probably **NOT** get into an ANP 101 section of your choosing as they close quickly. This could delay your program admission one semester. You will be registered, complete a letter of intent for program admission and take the typing test at this time. All students must have a C or better in **ALL** coursework to be admitted to the program. This program does not have competitive entry. If you have met all of the above requirements you **WILL** be admitted to the program. You may begin in any semester. Once you begin taking MEA courses your registration for future semesters will be handled during one of your MEA courses.

Once you have completed steps 1-5 you will need to make an appointment with the program chair-Lori Andrews- at 921-4589. This should be done during **EARLY REGISTRATION** of the semester you are taking ANP 101. (The semester following step 5) During this appointment with the program chair you will "map out" a timeline for taking all of your MEA courses through graduation. You will find out when you will graduate (if you complete all of the courses as scheduled) and when you will take the CMA exam. You will also be given a brief overview of the program with information about uniforms, costs, clinical assignments and courses in the program.

## STUDENT ADVISING WORKSHEET

### MEDICAL ASSISTANT TECHNICAL CERTIFICATE GENERALIST

PREREQUISITES	SEMESTER OFFERED	CLASS	CR	COURSE #
**SEE BELOW	EVERY	ANATOMY AND PHYSIOLOGY I	3	ANP 101
**	EVERY	ANATOMY AND PHYSIOLOGY II	3	ANP 102
**	EVERY	ENGLISH COMPOSITION	3	HEW 101
**	EVERY	INTRO TO INTERPERSONAL COMMUNICATION	3	HSS 148
NONE	EVERY	MEDICAL TERMINOLOGY	3	HHS 101
NONE	EVERY	MEDICAL LAW AND ETHICS	3	HHS 105
NONE	***	FIRST AID AND CPR	2	MEA 102
HHS101	FALL	MED INS & CODING/COMP APPL	3	MEA 137*
CO-MEA	FALL	CLINICAL I	3	MEA 138*
139/HHS101				
HHS101	FALL	CLINICAL II	3	MEA 139*
HHS101/ANP101	SPRING	MEDICAL ASST/LAB TECHNIQUES	3	MEA 114*
HHS101/ANP101	SPRING	PHARMACOLOGY	3	MEA 113*
ALL BSA	SPRING	MED FINANCIAL MGT/COMPT APPL	3	MEA 131
PC APP	SPR/SUM	MEDICAL ASSTNG/CLINICAL EXTERN	3	MEA 120
PC APP	SPR/SUM	MEDICAL ASSTNG/ADMINISTRATIVE	3	MEA 121
CO-MEA 120		EXTERN		
ADM TO PROG	SUMMER	OFFICE ADMINISTRATION/COMPT APPL	3	MEA 136
HHS101/TYPE @	SUMMER	MEDICAL WORD	3	MEA 135
30WPM 5 ERRORS		PROCESSING/TRANSCRIPTION		
FOR ASSOCIATE DEGREE ADD THE FOLLOWING:				
HHS101/ANP 101	FALL	DISEASE CONDITIONS	3	MEA 203
ALL BSA MATH	EVERY	MATH ELECTIVE	3	MAT 111
**	EVERY	HUMANITY ELECTIVE (PSY, SOC,POL, HUM)	3	APS 142
SEE P.C.	EVERY	ADMINISTRATIVE ELECTIVE	3	
SEE P.C.	EVERY	CLINICAL ELECTIVE	3	MEA 212

\* To be taken towards end of program, if questions check with Program Chair

\*\* See general education course requirements.

\*\*\*Scheduled multiple times-check with Program Chair

Notes: Complete all Basic Skills courses with a C or better prior to program admission

ANP 101 must be completed with a C or better before/during first semester of program

You must have a C or better in ALL coursework

You must complete a letter of intent for program admission

Students with GPA's less than 2.0 may only register for 6 credit hours

You must pass a typing test @ 30 wpm 5 errors for program admission

Registration occurs during the beginning of

March for the summer semester

June for the fall semester

October for the spring semester

## Letter of Intent for Program Admission

This is a notice of intent for the following student to enter the Medical Assisting Program. This notice of intent should be on file in the program office with the program chair before registration begins for the semester you will take ANP 101, which is one semester prior to admission. Complete and sign this letter of intent and the admissions checklist.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Home Phone: \_\_\_\_\_

Work Phone: \_\_\_\_\_

Student ID Number: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

Other Contact Number: \_\_\_\_\_

I wish to be considered for admission to the Medical Assisting Program next semester  
Summer      Fall      Spring   - of 20\_\_\_\_

Student Signature/Date: \_\_\_\_\_

Program Chair Signature/Date: \_\_\_\_\_

## Admissions Checklist for Medical Assisting

\_\_\_\_ 1. See a health admissions counselor for the following:

- \_\_\_\_ Ivy Tech application
- \_\_\_\_ high school transcripts
- \_\_\_\_ other college transcripts
- \_\_\_\_ placement testing
- \_\_\_\_ complete all Basic Skills courses with a C or better

\_\_\_\_ 2. Coordinate with the Medical Assisting program chair:

- \_\_\_\_ complete ANP 101 with a C or better
- \_\_\_\_ complete the notice of intent on the other side of this form
- \_\_\_\_ take and pass the typing test with 30 wpm 5 errors

\_\_\_\_ 3. Make your admissions appointment with the program chair when this form is complete!

Welcome to the Medical Assisting Program.

FYI-Registration occurs during the beginning of

March for the summer semester

June for the fall semester

October for the spring semester

Student Signature/Date: \_\_\_\_\_

Program Chair Signature/Date: \_\_\_\_\_



## Limited General Radiology Career Development Certificate

A series of six courses are required to become eligible to sit for the Limited General Radiography examination offered by the Indiana State Department of Health. Upon successful completion of courses a certificate is awarded. Graduates can work in physicians offices and clinics plus the various emergency care centers located outside of a hospital setting. The total amount of time required will be at least 165 classroom hours, including laboratory practice, and at least 920 hours of clinical experience.

A student who later wishes to be admitted to the associate degree program in Radiologic Technology may transfer courses from the Limited General Radiography program, provided a grade of "C" or better was achieved. The student would have to meet all admission requirements to the associate degree program, including completion of the prerequisite (general and technical core) courses.

### Prerequisites for applicants to Limited General Radiography

1. Be 18 years of age
2. Have a high school diploma or GED
3. Demonstrate 12th grade reading, writing, and math ability
4. Be employed full-time in a facility that has x-ray equipment and will agree to serve as a clinical site
5. Demonstrate knowledge of general anatomy, physiology, and medical terminology by either a grade of "C" or better in accredited courses or submitted documentation of the applicant's title as an LPN, RN or Medical Assistant.

### Required Courses

<u>Course #</u>	<u>Title</u>	<u>Semester</u>	<u>Hrs/Credit</u>
RAD 288-1	Orientation Nursing/X-Ray	Summer	4
RAD 288-2	Radiation Physics	Fall	3
RAD 288-3	Radiographic Positioning I	Fall	3
RAD 288-4	Radiographic Exposure	Spring	2
RAD 288-5	Radiographic Positioning II	Summer	3
RAD 288-6	Limited General Exam Review	Spring	3

### Clinical sites must have:

1. Current x-ray machine registration
2. X-ray equipment that is appropriate or not in violation of 410 IAC 5 (current regulations)
3. A physician who will serve as the student's sponsor and sign an agreement to document this relationship

### Handout Disclaimer

This handout is intended to supply accurate information to the reader based on the current practices for the Limited General Radiography courses. The reader is encouraged to remain current and informed about the practices in effect. The handout and its provision are not in any way a contract or agreement between the applicants and Ivy Tech State College.

**QUALIFIED MEDICINE AIDE (ADP 806)**  
**NURSE AIDE PROCEDURES AND PRACTICUM COURSE (ADP 805)**  
**PHLEBOTOMY (MEA 212)**

**Nurse Aide**

Nurse Aide Procedures and Practicum is a three-credit course which lasts for eight weeks. Students are in class four hours per week for eight weeks. After 16 hours of class, they also go to nursing homes to complete a 75-hour practicum. This is arranged with an assigned nursing home. At the end of the eight-week course and the 75-hour practicum, the students take the state-approved final examination with a state testing agency. A certificate is awarded, and the students' information is submitted to the Indiana State Department of Health. **Students must attend all classes.**

Qualified students must be able to read, write, and do simple math problems, and be able to do the physical work required of a nurse aide. A physical examination will be required and must be completed before starting practicum. Students must furnish a uniform. **Payment must be made when registering.**

For dates and times, see the Community College of Indiana – Central Indiana class schedule.

**Qualified Medicine Aide**

Qualified Medicine Aide (QMA) is a four-credit course offered three hours a week for 16 weeks. Students are required to complete a 20-hour practicum, or hands-on work experience in an extended care facility (nursing home) after completing the classroom work. The student is expected to be employed by a facility that will allow them to do the 20-hour practicum. After successfully completing the course, the student is eligible to sit for the State Examination, which costs \$20 and is arranged with Professional Resources.

In the first week of class, applicants must bring their high school diploma or GED scores, demonstrate that they are currently on the Indiana State Nurse Aid Registry, and have documentation on letterhead of three months experience as a CNA in a long-term care facility.

For dates and times, see the Community College of Indiana – Central Indiana class schedule.

For more information on these classes, contact Lana Anderson at 921-4561 or [ljanders@ivytech.edu](mailto:ljanders@ivytech.edu).

## PHLEBOTOMY (MEA 212)

Twenty seats are available in each class. All classes are held in North Meridian Center Room 534. This three-credit-hour course includes lecture over the circulatory system and the proper technique to draw blood from patients as well as safety measures to protect yourself and the patient. Students will practice venipuncture on the artificial arm several times to acquire the appropriate skills. **All students are also expected to be a "patient" and allow fellow classmates to draw blood from them as a vital element of this course.** Students are asked to contact the instructor if they have a valid medical reason why they cannot have their blood drawn. It is recommended students have a high school diploma or GED. Students must be 18 years of age.

### Attendance

A considerable amount of information is presented in each class meeting. Due to the large percentage of hands-on skills, attendance is strictly monitored.

### Supplies

Students can find the required text in the Ivy Tech Bookstore. Students also are required to wear a lab jacket/coat in the classroom.

### Estimated cost

Course fee	\$221.40
Textbook, plus tax	\$52.03
Supply fee to be paid at bookstore	\$60.00

### To register

1. Complete a registration form. See enclosed dates for registration. Select the course section (day and time) you prefer.
2. An advisor signs the registration form.
3. **Payment must be made at time of registration.**

### Placement

For more information on these classes, contact Lana Anderson at 921-4561 or [ljanders@ivytech.edu](mailto:ljanders@ivytech.edu).

The Community College of Indiana does not guarantee employment after training, but you may use the Career and Employment Services office to apply for a job. The average pay for phlebotomists (those who draw blood samples from patients in labs or hospitals) ranges from \$8 to \$10 and up per hour, depending upon the shift hours and type of facility (office, lab, hospital).

This course DOES NOT make you eligible for certification as a phlebotomist. A national certification test requires you show proof of a specific number and type of venipunctures. Your instructor can provide you with information about achieving national certification. At present, the college is able to provide clinical rotation for this course on a limited basis.

Many students take this course because they hope to be employed in a health care facility to draw blood. Presently, most hospitals are not hiring basic phlebotomists; they are retraining existing personnel to draw blood. This is due to the current budget curtailments in all health facilities. We urge all health students to take this course as part of their training to be prepared for entering many different employment situations. Nurses especially can benefit from taking this course. Employers sometimes hire graduates of this course without demanding extensive experience. The Regional Blood Center and many of the plasma centers may hire persons familiar with venipuncture. Insurance companies need persons to visit the homes of clients to obtain blood samples for screening; home health agencies may also employ phlebotomists to obtain samples from home-bound patients who need frequent blood tests.

The college wants you to be aware of the current employment opportunities before you decide to enroll in this course.

# Nursing

The Community College of Indiana offers a two-year generic Associate of Science (AS) nursing program. The program is also accredited by the National League for Nursing Accrediting Commission. Graduates are eligible to write the NCLEX-RN examination to become registered nurses. This program accommodates both students interested in nursing as a career and licensed practical nurses choosing to continue their nursing education.

## Admission Criteria For College Admission

Certificate of high school graduation or GED; SAT or ACT scores or college assessment

## For ASN Admission

NET Exam: Educational Resources Inc.

## For all nursing students

Physical health form and immunizations completed prior to registration for any clinical course.

Students who plan to transfer to the bachelor of science program in the Indiana University School of Nursing program at Indiana University-Purdue University at Indianapolis (IUPUI) upon graduation should plan also to take SIL 212, General Microbiology II.

## Non-Discrimination and Equal Opportunity Policy

Ivy Tech State College provides open admission, degree credit programs, courses and community service offerings, and student support services for all persons regardless of race, color, creed, national origin, religion, sex, physical or mental disability, age or veteran status. The college also provides opportunities to students on the same non-discriminatory opportunity basis. Persons who believe they may have been discriminated against should contact the campus affirmative action officer, Director of Human Resources, or Dean of Student Affairs.

## Disclaimer

This booklet is intended to supply accurate information to the reader. The college reserves the right to change the Program and course requirements; however, every effort will be made to inform students of any program changes. This handout and its provisions are not in any way a contract between an applicant and the college.

## **Introduction**

This information introduces you to the Associate in Science in Nursing (ASN) Program at Ivy Tech State College in Indianapolis. As the year 2000 marked the beginning of a new millennium, so the turn of the century heralds a new era for the Indianapolis campus of Ivy Tech State College. The Indianapolis campus received its charter on June 20, 1967. Classes were first offered in 1968. Enrollment growth has been consistently positive with headcount reaching approximately 11,000 for the 2001-2002 school year.

## **History**

The Central Indiana campus of Ivy Tech State College (formerly Indiana Vocational Technical College) was approved for a generic/traditional Associate of Science in Nursing Program in February of 1991. The Indiana State Board of Nursing approved the program in June 1991. This nursing program, which is strongly supported by all of the hospitals and extended care facilities in the geographic region, offers a nursing curriculum at the registered nurse level to non-nurses and advanced placement for licensed practical nurses who desire to further their nursing education.

## **Purpose**

The purpose of the program is to provide associate degree nursing education for the non-nurse and career mobility for the LPN. Upon successful completion of the program, the graduate is eligible to apply to take the NCLEX-RN examination which is required to obtain state licensure as a registered nurse.

The faculty believe education of associate degree nurses should be placed in institutions of higher learning. While the theoretical component of nursing education takes place at the college, clinical practice, an essential part of nursing education, takes place in the health care setting under the supervision and direction of professional nurse educators. Nursing students have the educational opportunities and auxiliary services of the college offered to all members of the student body.

## **Teaching Facilities**

All facilities and resources of Ivy Tech State College in Indianapolis are available to nursing students. Students make use of the college library, the open computer lab, the Learning Resource Center, student services, and other academic services. All courses are taught by faculty with advanced degrees in the appropriate fields of study



# Associate of Science in Nursing

## Clinical Facilities

Clinical experience is an integral part of the educational experience for all nursing students. The ASN program has affiliation agreements with a wide range of agencies to provide student-learning experiences. Agencies utilized include but are not limited to Clarian Health Partners, Inc., St. Francis Hospitals, Wishard Memorial Hospital, VA Hospital, Winona Memorial Hospital, Kindred Care Hospital, St. Vincent's Hospitals, Brownsburg Nursing Home and Lockfield Village.

## Admission

It is important to understand that your admission to the college is separate from your admission into the ASN Program. After you meet the program admission criteria, you must remain in good academic standing so you can register for required program-level courses and become clinically eligible to continue in the ASN program. You also need to understand that the employers and not the college control the clinical settings and who is permitted to use them.

## Admission Steps for ASN Program

### I. Admission/Selection

#### A. Admission

Admission to the college and the program follow statewide policy.(1.ISAP-ADMISSIONS)

- A. NUR program applicants must take the Nursing Entrance Test (NET). Applicants must score 60% on Essential Math Skills and Reading Comprehension components of the NET test. The NET may be taken two (2) times using Forms "A" and "B" provided there is at least 90 days between the testings. Scores will stand for two (2) years.

- B. LPN-to-ASN Transitional Track applicants must also provide the following documentation.
  - Current Indiana Practical Nursing license.
  - Official transcript of the Practical Nursing program.
  - Official documentation of successful completion of the 15-19 credit hours of first-level general education courses:

ANP 101	Anatomy and Physiology I
ANP 102	Anatomy and Physiology II
	OR
ANP 203	Human Anatomy and Physiology I
ANP 204	Human Anatomy and Physiology II
	AND
HEW 101	English Composition
APS 142	Introduction to Psychology
MAT 111	Intermediate Algebra

(The ASN faculty also recommend that the student complete the Microbiology course requirement prior to the beginning of the second level of the ASN program).

C. Selection of applicants will be made utilizing the following point system.

1. NET testing composite percentage score (average of Essential Math Skills and Reading Comprehension scores)

NET COMPOSITE SCORE:	POINTS
60-70%	10 points
71-80%	20 points
81-90%	30 points
91-100%	40 points

2. If there is a greater number of eligible applicants than there are clinical spots available, the grades of required general education courses completed will be considered utilizing the following scale:

SCIENCE/MATH COURSES: (Anatomy and Physiology, Chemistry, Microbiology and Intermediate Algebra)

GRADE:	POINTS
A	6 points
B	4 points
C	2 points

NON/SCIENCE/NON-MATH COURSES: (English Composition, Psychology, Public Speaking, and Microcomputers)

GRADE:	POINTS
A	3 points
B	2 points
C	1 point

3. Applicants will be rank ordered and offered admission to the program based on the number of available clinical spots.
4. Successful completion of the general education courses does not imply admission into the ASN Program.
5. Consistent with Indiana State Board of Nursing requirements, an official high school transcript from a state-approved high school or its equivalent, or original GED test scores must be on file.

## II Acceptance Time Line

Files are reviewed according to the following time line:

2-YEAR	LPN-to ASN	
December 1st	December 1st	Deadline to receive completed files.
January 15th	January 15th	All files reviewed and applicants chosen to complete the class roster.
February 1st	February 1st	Acceptance letters sent to new class members.

Successful completion of general education courses does not imply admission to the Associate of Science in Nursing Program.

The opportunity is provided for students to test-out of general education courses. CLEP exams will be accepted for Introductory Psychology, Human Growth and Development, English Composition, and Intermediate Algebra.

Minimum exam scores have been set by the college. They are

College Algebra	50
Introduction Psychology	50
Human G&D	50
English Composition without Essay	50

Students may also take the ACT-PEP exam for Anatomy and Physiology credit. Successful completion of the exam with a score of 45 or higher yields six hours of transferable credit. Students who utilize this option must complete the Anatomy and Physiology requirement by taking ANP 201 (Advanced Physiology) at Ivy Tech State College. Students interested in the ACT-PEP test-out program may contact the company by calling (888) 723-9267. Request the location and date for test number 506 (Anatomy and Physiology).

### Reapplication Process

Students who are not selected for the program may reapply for the next class. Letters requesting reconsideration (for the next class) are due each year by September 1st. Students who are reapplying will be added to the current population seeking admission to the program.



## ASSOCIATE OF SCIENCE

To receive this degree, you must earn 68 credits.

<b>General Education Core</b>			<b>28 credits</b>
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
SIL	211	Microbiology for Health Professionals	3
HSS	143	Speech OR	
HSS	148	Interpersonal Communication	3
HEW	101	English Composition	3
MAT	111	Intermediate Algebra	3
APS	142	General Psychology	3
ANP	201	Advanced Human Physiology	4
APS	201	Developmental Psychology	3
<b>Technical Core</b>			<b>40 credits</b>
NUR	150	Nursing and Universal Needs	4
NUR	151	Nursing and Universal Needs Practicum	4
NUR	152	Nursing Related to Health Deviation I	5
NUR	153	Nursing Related to Health Deviation I Practicum	5
NUR	154	Pharmacotherapeutics	2
NUR	250	Nursing Related to Health Deviation II	5
NUR	251	Nursing Related to Health Deviation II Practicum	5
NUR	252	Nursing Related to Developmental Needs	4
NUR	253	Nursing Related to Developmental Needs Practicum	4
NUR	254	Professional Nursing Issues	2
*NUR	248	Transition to ASN Nursing	5

\*Course specifically geared toward students enrolled in the LPN-to-ASN completion option. Successful completion of this course with a grade of "C" or better allows verification of credit applied toward the 100-level NUR courses.

**CURRICULUM PLANS  
TRADITIONAL STUDENT  
(2 YEAR STUDENT)**

**ASN PROGRAM**

		<b>CREDITS</b>	<b>CONTACT HRS PER WEEK</b>
<b>SEMESTER I</b>			
ANP 101	Anatomy and Physiology I	3	4
HEW 101	English Composition	3	3
MAT 111	Intermediate Algebra	3	3
NUR 150	Nursing and Universal Needs	4	4
NUR 151	Nursing and Universal Needs Practicum	4	10
NUR 154	Pharmacotherapeutics	2	2
<b>SEMESTER II</b>			
ANP 102	Anatomy and Physiology II	3	4
APS 142	Introduction to Psychology	3	3
NUR 152	Nursing related to Health Deviation I	5	5
NUR 153	Nursing related to Health Deviation I Practicum	5	15
<b>SEMESTER III</b>			
HSS 148	Interpersonal Communications OR	3	3
HSS 143	Speech	3	3
ANP 201	Advanced Physiology	4	5
*NUR 250	Nursing Related to Health Deviation II	5	5
*NUR 251	Nursing Related to Health Deviation II Practicum	5	15
<b>SEMESTER IV</b>			
SIL 211	General Microbiology	3	5
APS 201	Life Span Development	3	3
*NUR 252	Nursing Related to Development Needs	4	4
*NUR 253	Nursing Related to Development Needs Practicum	4	12
NUR 254	Professional Nursing Issues	2	2

\* NUR 250/251 and NUR 252/253 course sequences are offered each semester.  
Student schedule may reflect this flexibility.

**CURRICULUM PLANS  
TRANSITIONAL STUDENT  
( LPN STUDENT)**

**ASN PROGRAM**

<b>PREREQUISITE</b>		<b>CREDITS</b>	<b>CONTACT HRS PER WEEK</b>
ANP 101	Anatomy and Physiology I	3	4
ANP 102	Anatomy and Physiology II	3	4
APS 142	Introduction to Psychology	3	3
MAT 111	Intermediate Algebra	3	3
HEW 101	English Composition	3	3

**SEMESTER II**

NUR 248	Transition to ASN Nursing	5	8
**NUR 154	Pharmacotherapeutics	2	2

\*\*MAY BE required if pharmacology was not a part of the PN curriculum.

**SEMESTER III**

HSS 148	Interpersonal Communications OR	3	3
HSS 143	Speech	3	3
ANP 201	Advanced Physiology	4	5
*NUR 250	Nursing related to Health Deviation II	5	5
*NUR 251	Nursing related to Health Deviation II Practicum	5	15

**SEMESTER IV**

SIL 211	General Microbiology	3	5
APS 201	Life Span Development	3	3
*NUR 252	Nursing related to Development Needs	4	4
*NUR 253	Nursing related to Development Needs Practicum	4	12
NUR 254	Professional Nursing Issues	2	2

\* NUR 250/251 and NUR 252/253 course sequences are offered each semester. Student schedule may reflect this flexibility.

## **TERMINAL PROGRAM OBJECTIVES**

Upon completion of the program, the graduate will be able to:

1. Relate the impact of universal, developmental and health deviation needs on the health and maturation of the client.
2. Analyze the relationships of cultural and spiritual implications, biopsychosocial facts, concepts and principles in assisting clients to meet needs.
3. Integrate the nursing process into the delivery of competent nursing care.
4. Design individualized teaching plans collaboratively with client(s) and their support persons to meet health needs.
5. Employ advanced communication techniques in interacting appropriately with clients, their support persons, and members of the health care delivery system.
6. Manage care collaboratively for groups of assigned clients to meet identified client needs.
7. Function within the scope of practice of the associate degree nurse.
8. Evaluate personal effectiveness in fulfilling the role of the associate degree nurse, demonstrating responsibility and accountability for professional growth, personal growth and nursing actions.

## **Terminal Program Outcomes**

1. Graduation Rate: Seventy percent (70%) will graduate within 4 years of admission to the program for the generic students, or within 2 years of admission for the transition student.
2. Pass rate: Ninety percent (90%) of graduates will pass NCLEX-RN exam upon the first writing.
3. Employment rate: Eighty-five percent (85%) will be employed within 6 months of graduation.

## **Disability Services Information**

Students who request accommodations are expected to participate in an intake interview with Disability Services if requesting specific services, academic adjustments or other accommodations for a disability. Prospective students should schedule an intake interview prior to attempting any part of the admission process if accommodations will be required for the information session, academic assessment, completing forms or scheduling classes. The intake process, including intake interview and documentation on file, should be completed at least one month prior to the need for accommodations. Documentation of the disability must be on file with the Disability Services office prior to services being provided. Late requests may delay accommodations. In accordance with the above procedure, federal guidelines and respect for individual privacy, no action will be taken without a specific request.

If you would like more information about the Disabled Student Development program at Ivy Tech State College in Indianapolis or would like to schedule an appointment for an intake interview, please contact Special Needs at 921-4982.

All students are expected to meet entry requirements. Essential elements of courses and programs and licensing requirements relevant to a program curriculum cannot be waived, although they may be reasonably accommodated. If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.

## Essential Functions of Associate of Science in Nursing Students

Qualified applicants are expected to meet all admission criteria and matriculating students are expected to meet all progression criteria, as well as these essential functions. Students with documented need for accommodations are to meet with the campus Disabilities Support Services Representative.

<b><u>FUNCTION ABILITY CATEGORY</u></b>	<b><u>REPRESENTATIVE ACTIVITY/ATTRIBUTE</u></b>
GROSS MOTOR SKILLS	Move within confined spaces Sit and maintain balance Stand and maintain balance Reach above shoulders (e.g., IV poles) Reach below waist (e.g., plug electrical appliance into wall outlets)
FINE MOTOR SKILLS	Pick up objects with hands Grasp small objects with hands (e.g., IV tubing, pencil) Write with pen or pencil Key/type (e.g., use a computer) Pinch/pick or otherwise work with fingers (e.g., manipulate a syringe) Twist (e.g., turn objects/knobs using hands) Squeeze with finger (e.g., eye dropper)
PHYSICAL ENDURANCE	Stand (e.g., at client side during surgical or therapeutic procedure) Sustain repetitive movements (e.g., CPR) Maintain physical tolerance (e.g., work entire shift)
PHYSICAL STRENGTH	Push and pull 25 pounds (e.g., position clients) Support 25 pounds (e.g., ambulate client) Lift 25 pounds (e.g., pick up a child, transfer client) Move light object weighing up to 10 pounds (e.g., IV poles) Move heavy objects weighing from 11 to 50 pounds Defend self against combative client Carry equipment/supplies Use upper body strength (e.g., perform CPR, physically restrain a client) Squeeze with hands (e.g., operate fire extinguisher)
MOBILITY	Twist Bend Stoop/squat Move quickly (e.g., response to an emergency) Climb (e.g., ladders/stools/stairs) Walk

HEARING	Hear normal speaking level sounds (e.g., person-to-person report) Hear faint voices Hear faint body sounds (e.g., blood pressure sounds, assess placement of tubes) Hear in situations when not able to see lips (e.g., when masks are used) Hear auditory alarms (e.g., monitors, fire alarms, call bells)
VISUAL	See objects up to 20 inches away (e.g., information on a computer screen, skin conditions) See objects up to 20 feet away (e.g., client in a room) See object more than 20 feet away (e.g., client at end of hall) Use depth perception Use peripheral vision Distinguish color (e.g., color codes on supplies, charts, bed) Distinguish color intensity (e.g., flushed skin, skin paleness)
TACTILE	Feel vibrations (e.g., palpate pulses) Detect temperature (e.g., skin solutions) Feel differences in surface characteristics (e.g., skin turgor, rashes) Feel differences in sizes, shapes (e.g., palpate vein, identify body landmarks) Detect environment temperature (e.g., check for drafts)
SMELL	Detect odors from client (e.g., foul smelling drainage, alcohol breath, etc.) Detect smoke Detect gases or noxious smells
READING	Read and understand written documents (e.g., policies, protocols)
CRITICAL THINKING	Identify cause-effect relationships Plan/control activities for others Synthesize knowledge and skills Sequence information
INTERPERSONAL SKILLS	Negotiate interpersonal conflict Respect differences in clients Establish rapport with clients Establish rapport with co-workers

ARITHMETIC COMPETENCE	<p>Read and understand columns of writing (flow sheet, charts)</p> <p>Read digital displays</p> <p>Read graphic printouts (e.g., EKG)</p> <p>Calibrate equipment</p> <p>Convert numbers to and/or from the Metric System</p> <p>Read graphs (e.g., vital sign sheets)</p> <p>Tell time</p> <p>Measure time (e.g., count duration of contractions, etc.)</p> <p>Count rates (e.g., drips/minute, pulse)</p> <p>Use measuring tools (e.g., thermometer)</p> <p>Read measurement marks (e.g., measurement tapes, scales, etc.)</p> <p>Add, subtract, multiply, and/or divide whole numbers</p> <p>Compute fractions (e.g., medication dosages)</p> <p>Use a calculator</p> <p>Write number in records</p>
EMOTIONAL STABILITY	<p>Establish therapeutic boundaries</p> <p>Provide client with emotional support</p> <p>Adapt to changing environment/stress</p> <p>Deal with the unexpected (e.g., client going bad, crisis)</p> <p>Focus attention on task</p> <p>Monitor own emotions</p> <p>Perform multiple responsibilities concurrently</p> <p>Handle strong emotions (e.g., grief)</p>
ANALYTICAL THINKING	<p>Transfer knowledge from one situation to another</p> <p>Process information</p> <p>Evaluate outcomes</p> <p>Problem solve</p> <p>Prioritize tasks</p> <p>Use long-term memory</p> <p>Use short-term memory</p>
COMMUNICATION SKILLS	<p>Teach (e.g., client/family about health care)</p> <p>Explain procedures</p> <p>Give oral reports (e.g., report on client's condition to others)</p> <p>Interact with others (e.g., health care workers)</p> <p>Speak on the telephone</p> <p>Influence people</p> <p>Direct activities of others</p> <p>Convey information through writing (e.g., progress notes)</p>

\*Adapted from Validation Study: "Functional Abilities Essential for Nursing Practice," National Council of State Boards of Nursing, Inc. 1996.

# Readmission to the Program

If a student is dismissed from any campus/region of Ivy Tech State College, that individual is dismissed from the college.

- A. For violations of the college rules of conduct: The year starts at the time/date of the official notification to the student by the chief administrative officer. After one calendar year, the individual under suspension may apply for reinstatement. If the student is dismissed, the student may appeal for reinstatement after five years.

The individual must begin the reinstatement appeal process by informing the chief student affairs officer at the campus where the dismissal took place of her/his intentions. The appeal for reinstatement may be applied for at any campus/region of Ivy Tech where the individual hopes to attend. The campus/region Student Status Committee will act on the appeal within thirty (30) days of its receipt. The recommendation of the Student Status Committee will be forwarded to the chief administrative officer of the campus/region. That individual will render a judgment on the appeal. That judgment will be final. (9.1SAP - STUDENT RIGHTS AND RESPONSIBILITIES)

- B. For failure to meet and maintain academic standards: A student who fails to maintain satisfactory academic progress will be subject to a series of intervention activities and related restrictions until such time as he/she restores satisfactory progress or is dismissed as a degree/certificate seeking student due to repeated unsatisfactory progress.
  - 1. A student who is dismissed from the NUR program for unsatisfactory academic progress faces one term of non-enrollment as a certificate or degree declared student prior to resuming progress toward that certificate or degree, at which time re-enrollment is allowed on a probationary status.
  - 2. A student who is dismissed twice for unsatisfactory academic progress will be terminated for up to five years as a degree or certificate declared student unless he/she chooses to participate in an extensive Basic Skills Advancement program to correct academic deficiencies.
  - 3. Petition for readmission must be initiated at the campus where dismissal occurred via the Academic Status Committee. (4.3APPM-DEGREE REQUIREMENTS/GRADUATION)
    - The following criteria will be utilized for readmission
      - a. There must be space available.
      - b. If the number of applicants for readmission exceeds clinical space availability, selection will be based on the earliest date of written application for readmission.
      - c. A readmitted student is subject to the curriculum guidelines and program policies in effect at the time of readmission.
- C. For reasons of illness: If a student who is otherwise in good standing has to drop out of a program for one semester because of well-documented health reasons, that student will be allowed to repeat the course(s) without penalty and that student will not be considered a readmit when he/she returns to the program.



## **Transfer**

The college encourages articulation between programs offered at each campus and similar programs offered at secondary or post-secondary levels. To ensure that articulation between programs at the high school level and Ivy Tech and between Ivy Tech and four-year institutions is established on a permanent and educationally sound foundation, formal written articulation agreements with secondary and/or post-secondary institutions must be developed.

Local articulation agreements between Ivy Tech campuses and post-secondary institutions and statewide post-secondary articulation agreements should include a statement listing all conditions under which the courses or degree programs transfer. (6.3 APPM-CREDIT TRANSFER/AWARDING)

The Registrar will accept in transfer any course appearing on the SIS+ transfer list. For courses not appearing on SIS+, recommendations for transfer of credit are made by the Department/Program head. Credits to be considered for transfer must have been earned at a post-secondary institution accredited by a regional accrediting board, and the student must have earned a grade of "C" or better in the course(s) involved. Grades below C- do not transfer. Transferred credit is included in earned hours, but does not affect the grade point average. Final authority for transfer credit rests with the chief academic officer. Credits taken more than 10 years prior must be reviewed by the chief academic officer if applied to a degree or certificate objective.

This policy applies to credits accepted in transfer from another institution and to credits taken at Ivy Tech prior to declaring the new degree or certificate objective to which the credits may apply (4.2APPM-GRADING POLICIES).

Transfer is on a space available basis.

### **Movement within the Ivy Tech system**

Movement within the Ivy Tech State system is based on the following:

- a. Clinical space availability
- b. Written request by the student indicating the desire to complete his/her studies at another campus
- c. Good academic standing with a cumulative GPA of 2.0 or higher

The student is held harmless in the transfer of co-requisite credit of the General Education courses required region-to-region.

## Indiana State Board of Nursing Questions

The following questions are asked by the Indiana State Board of Nursing in the application to take their examination. If you answer "YES" to any of these questions, it is your obligation to resolve this situation with the Board.

1. Has disciplinary action ever been taken regarding any health license, certification, registration or permit that you hold or have held?  
YES \_\_\_ NO \_\_\_
2. Have you ever been denied a license, a certificate, registration or permit to practice as a nurse or any regulated health occupation in any state (including Indiana) or country?  
YES \_\_\_ NO \_\_\_
3. Are there charges pending against you regarding a violation of any federal, state or local law relating to the use, manufacturing, distribution or dispensing of controlled substance, alcohol or other drugs?  
YES \_\_\_ NO \_\_\_
4. Have you ever been convicted of, pled guilty or "nolo contendere" (no contest):  
A. to the manufacturing, distribution, dispensing of controlled substance, alcohol or other drugs?  
YES \_\_\_ NO \_\_\_  
B. to any offense, misdemeanor or felony in any state? (Except for minor traffic violations resulting in fines.)  
YES \_\_\_ NO \_\_\_
5. Have you ever been denied staff membership or privileges in any hospital or health care facility or had such membership or privilege revoked, suspended or subjected to any restrictions, probation or other type of discipline or limitations?  
YES \_\_\_ NO \_\_\_
6. Have you ever had a malpractice judgment against you or settled any malpractice action?  
YES \_\_\_ NO \_\_\_

## **Costs**

The following is an estimate of the cost of the program. The cost is subject to change without notice.

Credit hour fee	Instate: \$73.80	Out of state: \$148.75
Books	Nursing:	\$800.00
	General Education:	\$500.00
Uniforms, related supplies		\$200.00
NCLEX Review, Licensing Fees, Graduation		\$700.00

All students must also obtain, at their own expense, a physical examination including a TB test, MMR or Rubella and Rubeola Titers, Varivax or varicella(chicken pox) titer , the Hepatitis B vaccine series, CPR certification (Healthcare Provider), and transportation to the clinical facilities.

### **ACCREDITING BODIES:**

North Central Association of Colleges and Schools  
30 North LaSalle Street, Suite 2400  
Chicago, IL 60602-2504  
Phone: 312-263-0456

Indiana State Board of Nursing Health Professions Bureau  
402 West Washington Street, Room 041  
Indianapolis, IN 46204  
Phone: 317-232-2690

National League for Nursing Accrediting Commission  
350 Hudson Street  
New York, NY 46204  
Phone: 212-645-9685 or 1-800-669-9656  
Web site: [www.nlnac.org](http://www.nlnac.org)

# Office Administration

## Specialties:

*Administrative*

*Legal*

*Medical*

*Software*

*Administrative Assistant (Technical Certificate)*

The Office Administration Program prepares students for an automated office environment. Students develop basic office skills and acquire computer skills, including word processing, spreadsheets, databases, and microcomputer operating systems. Several applications (advanced word processing, desktop publishing, and integrated packages) can also be studied in depth. The Office Administration Program is designed to accommodate students with different levels of training experiences. Courses are offered which provide initial, advanced, and refresher education and assist individuals in achieving professional recognition and career progression. The program offers the Software Specialty, Medical Specialty, and Legal Specialty courses of study for the Associate of Applied Science degree. An Administrative Assistant Specialty is also offered in the Technical Certificate program of study.

Students who complete the recommended sequences of courses are eligible to take the Administrative Information Processing Specialist (AIPS) or the Certified Professional Secretary (CPS) exams administered by the Institute for Certifying Secretaries of the Professional Secretaries International Association (PSI).

## Degrees Available

Associate of Applied Science – 60 credits

Associate of Science – 60 credits

Technical Certificate – 30 credits

## ASSOCIATE OF APPLIED SCIENCE

### Administrative Specialty

To receive this degree, you must earn 60 credits.

<b>General Education Core</b>	<b>18 credits</b>
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HSS	143	Speech	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
SPS	101	Physical Science	3
ASO	151	Principles of Sociology	3

<b>Technical Core</b>	<b>18 credits</b>
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ACC	101	Accounting Principles	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
OAD	119	Document Processing	3
OAD	216	Business Communications	3
OAD	221	Office Administration and Supervision	3

<b>Administrative Specialty Core</b>	<b>12 credits</b>
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OAD	103	Word Processing Applications	3
OAD	121	Office Procedures	3
OAD	114	Desktop Publishing	3
OAD	220	Records and Database Management	3

<b>Regionally Determined Core</b>	<b>6 credits</b>
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OAD	207	Integrated Office Applications	3
OAD	219	Advanced Document Processing	3

<b>Electives (choose two)</b>	<b>6 credits</b>
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OAD	110	Presentation Graphics	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
OAD	280	Co-op Internship	3
CIS	106	Microcomputer Operating Systems	3

# ASSOCIATE OF APPLIED SCIENCE

## Legal Specialty

To receive this degree, you must earn 60 credits.

### General Education Core 18 credits

HSS	143	Speech	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
SPS	101	Physical Science	3
ASO	151	Principles of Sociology	3

### Technical Core 18 credits

ACC	101	Accounting Principles	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
OAD	119	Document Processing	3
OAD	216	Business Communications	3
OAD	221	Office Administration and Supervision	3

### Legal Specialty Core 12 credits

OAD	103	Word Processing Applications	3
LEG	101	Introduction to Paralegal	3
LEG	102	Legal Research	3
LEG	103	Civil Procedures	3

### Regionally Determined Core 6 credits

OAD	215	Legal Transcription	3
OAD	219	Advanced Document Processing	3

### Electives (choose two) 6 credits

OAD	110	Presentation Graphics	3
OAD	114	Desktop Publishing	3
OAD	207	Integrated Office Applications	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
OAD	220	Records and Database Management	3
OAD	280	Co-op Internship	3

# ASSOCIATE OF APPLIED SCIENCE

## Medical Specialty

To receive this degree, you must earn 60 credits.

### General Education Core 18 credits

HSS	143	Speech	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
SPS	101	Physical Science	3
ASO	151	Principles of Sociology	3

### Technical Core 18 credits

ACC	101	Accounting Principles	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
OAD	119	Document Processing	3
OAD	216	Business Communications	3
OAD	218	Spreadsheets	3

### Medical Specialty Core 14 credits

HHS	101	Medical Terminology	3
HHS	105	Medical Law and Ethics	3
MEA	137	Medical Insurance/Computer Applications	3
MEA	136	Medical Office Administration/	
		Computer Applications	3
OAD	121	Office Procedures	3

### Regionally Determined Core 6 credits

OAD	207	Integrated Office Applications	3
OAD	211	Medical Transcription	3

### Electives (choose two) 4 credits

OAD	103	Word Processing Applications	3
OAD	110	Presentation Graphics	3
OAD	114	Desktop Publishing	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	219	Advanced Document Processing	3
OAD	220	Records and Database Management	3
OAD	221	Office Administration & Supervision	3
OAD	280	Co-op Internship	3
MEA	215	Advanced Medical Terminology	3
CIS	106	Microcomputer Operating Systems	3
HHS	104	CPR and Basic Health Awareness	1

ASSOCIATE OF APPLIED SCIENCE

Software Specialty

To receive this degree, you must earn 60 credits.

<b>General Education Core</b>			<b>18 credits</b>
HSS	143	Speech	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
MAT	112	Functional Mathematics OR	
MAT	111	Intermediate Algebra	3
SPS	101	Physical Science	3
ASO	151	Principles of Sociology	3
<b>Technical Core</b>			<b>18 credits</b>
ACC	101	Accounting Principles	3
BUS	101	Introduction to Business	3
CIS	101	Introduction to Microcomputers	3
OAD	119	Document Processing	3
OAD	216	Business Communications	3
OAD	221	Office Administration and Supervision	3
<b>Software Specialty Core</b>			<b>15 credits</b>
OAD	103	Word Processing Applications	3
OAD	114	Desktop Publishing	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
<b>Regionally Determined Core</b>			<b>3 credits</b>
OAD	207	Integrated Office Applications	3
<b>Electives (choose two)</b>			<b>6 credits</b>
OAD	110	Presentation Graphics	3
OAD	121	Office Procedures	3
OAD	219	Advanced Document Processing	3
OAD	220	Records and Database Management	3
OAD	280	Co-op Internship	3
CIS	106	Microcomputer Operating Systems	3



## ASSOCIATE OF SCIENCE

To receive this degree, you must earn 60 credits.

General Education Core			24 credits
HSS	143	Speech	3
HS	148	Interpersonal Communication	3
AEC	100	Elements of Economics	3
HEW	101	English Composition I	3
APO	111	American National Government	3
MAT	111	Intermediate Algebra	3
xxx	xxx	Life/Physical Science	3
xxx	xxx	Social Science Elective	3

Technical Core			33 credits
ACC	101	Accounting Principles I	3
ACC	102	Accounting Principles II	3
BUS	101	Introduction to Business	3
BUS	102	Business Law	3
BUS	105	Principles of Management	3
CIS	101	Introduction to Microcomputers	3
OAD	103	Word Processing Applications OR	
OAD	288	Microcomputer Word Processing	3
OAD	119	Document Processing	3
OAD	207	Integrated Office Applications	3
OAD	220	Records and Database Management	3
OAD	221	Office Administration and Supervision	3

Regionally Determined Electives (choose one)			3 credits
OAD	216	Business Communications	3
OAD	110	Presentation Graphics	3
OAD	114	Desktop Publishing	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
OAD	280	Co-op Internship	3

## TECHNICAL CERTIFICATE

### Administrative Assistant Specialty

To receive this certificate, you must earn 30 credits.

<b>General Education Core</b>			<b>6 credits</b>
HEW	101	English Composition I	3
ASO	151	Principles of Sociology	3
<b>Technical Core</b>			<b>3 credits</b>
OAD	119	Document Processing	3
<b>Administrative Assistant Specialty Core</b>			<b>9 credits</b>
OAD	103	Word Processing Applications	3
OAD	121	Office Procedures	3
CIS	101	Introduction to Microcomputers	3
<b>Regionally Determined Core</b>			<b>6 credits</b>
OAD	207	Integrated Office Applications	3
OAD	216	Business Communications	3
<b>Electives (choose two)</b>			<b>6 credits</b>
OAD	110	Presentation Graphics	3
OAD	214	Multimedia Design	3
OAD	217	Computer Operator Problem Solving	3
OAD	218	Spreadsheets	3
OAD	280	Co-op Internship	3
CIS	106	Microcomputer Operating Systems	3

# Paralegal

Recognizing the demand for trained paralegals, Ivy Tech has shaped a curriculum with input from attorneys, judges, paralegals, the American Bar Association, and other legal professionals. These advisors have helped Ivy Tech determine what qualifications are necessary for success in the paralegal field.

Ivy Tech's program produces knowledgeable paralegal professionals ready for an exciting career in law firms, the courts, government, corporate legal departments, banks, title companies, insurance companies, and other businesses. Paralegal duties include drafting pleadings, transactional documents, and legal correspondence; interviewing clients and witnesses; doing legal research in the library or on the computer; managing trial documents and exhibits; and assisting attorneys in the courtroom.

Ivy Tech training provides students with the variety of skills necessary to succeed in this career. The curriculum emphasizes written and oral communication skills and provides in-class opportunities for technical skill development. Courses are taught by attorneys who are selected based upon their experience in the subject matter, as well as their familiarity with the role of paralegals as part of the legal team.

## **Degrees Available**

Associate of Applied Science – 60 credits

## **Average Salary**

\$35,000 annually

# ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 60 credits.

This is **NOT** a recommended sequence. You must talk to your program chair before registering for any of these courses.

General Education Core			18 credits
HEW	101	English Composition I	3
HEW	102	English Composition II	3
HSS	143	Speech	3
MAT	111	Intermediate Algebra	3
xxx	xxx	Science Elective	3
xxx	xxx	Social Science or Humanities Elective	3

Technical Core			30 credits
LEG	101	Introduction to Paralegal Studies	3
LEG	102	Legal Research	3
LEG	103	Civil Procedure	3
LEG	106	Tort Law	3
LEG	107	Contracts and Commercial Law	3
LEG	108	Property Law	3
^LEG	202	Litigation	3
LEG	203	Law Office Technology	3
LEG	204	Legal Writing	3
CIS	101	Introduction to Microcomputers	3

Electives (Choose four, two must be LEG courses)			12 credits
LEG	205	Business Associations	3
LEG	209	Family Law	3
LEG	210	Wills, Trusts and Estates	3
LEG	211	Criminal Law	3
LEG	212	Bankruptcy Law	3
LEG	280	Paralegal Internship	3
ACC	101	Principles of Accounting I	3
ACC	105	Income Tax Accounting	3
BUS	101	Introduction to Business	3
OAD	116	Business Communications	3
OAD	207	Integrated Application	3
OAD	218	Spreadsheets	3
OAD	288	Word Perfect	3
xxx	xxx	General education course	3

^ Capstone Course

# Practical Nursing

The licensed practical nurse is an integral part of the health care team. The Practical Nursing program is a one-year course of study leading to a Technical Certificate. This accredited program prepares the individual to take the state licensure exam to become a licensed practical nurse (LPN). This program is designed for students to gain the knowledge and technical skills necessary to appropriately care for patients in a variety of health care settings, such as hospitals, convalescent centers, and physicians offices.

- The Indianapolis program is accredited by the Indiana State Board of Nursing and the National League of Nursing Accrediting Commission (NLNAC).
- This program begins in the fall and spring semesters of this 12-month program that requires two semesters and a 11-week summer session.
- The PSB Aptitude Test Practical Nursing is required after Skills Advancement courses (reading, writing and math) are completed or almost completed. The fee for this test is \$20.
- The starting salary is \$10 to \$25 per hour, which can increase up to 25 percent because of shift differentials and fringe benefits. Salaries vary widely due to positions.
- Applicants are advised to apply six to nine months in advance of desired admission.
- The Practical Nursing program utilizes many facilities within the community for clinical rotations as a component of the Practical Nursing program.

TECHNICAL CERTIFICATE

To receive this certificate, you must earn 52 credits.

General Education Core			6 credits
HEW	101	English Composition: Strategies for Inquiry	3
APS	142	Introduction to Psychology	3
Technical Core			46 credits
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
PNU	114	Nursing Issues and Trends	1
PNU	121	Introduction to Nursing I	4
PNU	122	Introduction to Nursing II	6
PNU	123	Pharmacology	3
PNU	127	Care of the Adult I	5
PNU	128	Care of the Adult II	5
PNU	129	Care of the Adult III	5
PNU	130	Nursing Care of the Older Adult	5
PNU	131	Nursing Care of the Child-Bearing Family	6
Additional courses which will help develop students for program courses:			
ENG	007	Spelling	1
BIO	065	Introduction to Life Sciences	3
CIS	074	Computer Literacy	2
HHS	101	Medical Terminology	3
MEA	212	Phlebotomy	3
IVY	070	College and Life Success Skills	3

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## **Practical Nursing Program**

The Practical Nursing program admits 80 students in the fall semester and 80 students in the spring semester. The program is a combination of lecture, nursing laboratory, and a variety of clinical assignments. It is a requirement of Ivy Tech-Central Indiana that ANP 101 be taken and passed before consideration for admission. It is recommended that the four total GTS courses be taken and passed before entering the program. These courses are HEW 101, APS 142, ANP 101, and ANP 102. The PSB must be taken and passed with a score of 25 or above in all areas to be considered for admission. If the student has a GPA, it must be above a 2.00. The total net scores of the PSB testing are compiled to rank order the students. The students with the highest net scores are accepted first.

### ***Semester 1 (16 Weeks)***

- 13 Credits of PNU courses
- 3 Credits of ANP 102 (if not taken already)
- 3 Credits of HEW 101 and/or APS 142 (if not already taken)
- 19 Credits

There is one clinical day per week. Clinic hours are usually 6:30 a.m. to 3:00 p.m. Lecture and lab courses occur during the other four weekdays. Hours: 8:00 a.m. to 5:00 p.m.

### ***Semester 2 (16 Weeks)***

- 15 Credits of PNU courses
- 3 Credits of HEW 101 or APS 142 (if not already taken)
- 18 Credits

There are two and half clinical days per week (20 hours) and lectures on the other three weekdays.

### ***Semester 3 (11 Weeks) (Summer)***

- 12 Credits of PNU courses

12-15 There are three clinical days per week throughout the entire session. Lecture on other two week days.  
51-52 Total credits

There are breaks between semesters.

## **Nature of Work**

Licensed practical nurses work under the direction of physicians and registered nurses. In hospitals, licensed practical nurses provide much of the bedside care. They provide nursing care under the direction of the nurse and/or physician. Licensed practical nurses can work in private homes providing day-to-day care. In addition to providing nursing care, they may prepare meals and see that patients are comfortable. Such nurses work for an agency.

In doctors offices and in clinics, licensed practical nurses prepare patients for examination and treatment, administer medications, apply dressings, and teach patients prescribed health care regimens, make appointments and record information about patients.

## **Working Conditions**

Licensed practical nurses work any shift with wide variations in schedules.

## **Employment**

Opportunities include hospitals, nursing homes, rehabilitation centers, psychiatric hospitals, and other long-term care facilities as well as clinics or doctors offices.

### Pay Ranges

\$10.00-\$25.00 per hour (average). Additional differential compensation may be earned depending upon other skills or shift hours.

### Length of Program

Three semesters (Some courses may be taken prior to admission into the program.)

### Cost of Program

Approximately \$5,500

### Accredited by:

The Indiana State Board of Nurses Registration and Nursing Education and the National League for Nursing Accrediting Commission. Graduates are eligible to take the examination (NCLEX) to become a licensed practical nurse in Indiana after successful completion of the program.

### To be eligible for admission into the Practical Nursing Program

1. ANP 101 must be completed prior to admission and ANP 102 also may be taken before entering the Practical Nursing Program. These courses are either co-requisites or prerequisites to all practical nursing courses. ANP 101 must be completed before entering the program. ANP 102 can be taken in the first semester with PN courses. It is strongly recommended that ANP 102 be completed before admission to the program.
2. A. Complete an application form to Ivy Tech.  
B. Submit an official copy of high school transcript or GED.  
C. Submit an official copy of transcript from previous colleges if student wishes to transfer credits.
3. Take the Ivy Tech State College ASSET Test to evaluate entry skills in reading, writing, basic math and English. This test may be waived if appropriate courses from another college are evaluated. The transcript must be officially evaluated before waiver can be granted.
4. If the ASSET test determines that the applicant does not meet the entry levels established for the PNU program, the applicant must enroll in and successfully complete the required basic skills courses which include:  
ENG 031 and/or ENG 032 Reading Skills  
ENG 024 and/or ENG 025 Writing Skills  
MAT 044 Basic Math  
ENG 024 and/or ENG 025 Writing Skills  
MAT 044 Basic Math

The College may require the applicant to enroll in a college orientation course based upon reading and writing levels. This course helps the applicant succeed in college-level courses by acquiring organizational time management and study skills before proceeding to General Education and program level courses.

5. Once the applicant has achieved successful grades in the required Foundation Course, he/she may take the **PSB Aptitude Test for Practical Nursing**. This is a three-hour nationally standardized test to measure the applicant's abilities to be successful in a nursing career. The test includes basic math problems, spelling, sciences, and nursing judgement categories. **There is a \$20.00 fee for this test.**

The program requires a minimum score of the 25th percentile in each of the seven test categories of the PSB. If the applicant achieves the mandated scores on the first PSB, his/her application will be forwarded to the Admissions Committee for consideration when the next class is being selected.



The college may require the applicant to enroll in a college orientation course based upon reading and writing levels. This course helps the applicant succeed in college-level courses by acquiring organizational, time management, and study skills before proceeding to General Education and program level courses.

5. Once the applicant has achieved successful grades in the required Foundation Course, he/she may take the **PSB Aptitude Test for Practical Nursing**. This is a three-hour nationally standardized test to measure the applicant's abilities to be successful in a nursing career. The test includes basic math problems, spelling, sciences, and nursing judgement categories. **There is a \$20.00 fee for this test.**

The program requires a minimum score of the 25th percentile in each of the seven test categories of the PSB. If the applicant achieves the mandated scores on the first PSB, his/her application will be forwarded to the Admissions Committee for consideration when the next class is being selected.

Applicants may take the PSB two times, 30 days apart, within a one-year time period. Scores are valid for one year.

Deadlines for PSB and Applications:

Applicant must have:

1. Passing grade of "S" for reading, "C" or better for ENG 024, ENG 025, MAT 044.
2. PSB Test with 25th percentile score in each of 7 categories.
3. 2.0 GPA or higher in courses taken at Ivy Tech.
4. Call 921-4450 for a PSB packet.

Applicants will be notified by mail as to their acceptance into the program. Not all applicants will be accepted.

Applicants will be rank ordered according to the sum of the PSB raw scores or percentile scores and offered admission to the program according to the number of clinical spots available.

**BEFORE YOU MAKE YOUR DECISION TO APPLY FOR ADMISSION, YOU SHOULD CONSIDER THE FOLLOWING:**

1. Can you achieve the 25th percentile level in each of the seven categories of the PSB test? Many applicants have difficulty with the science section. We strongly recommend that you take BIO 065 Life Science and CHM 061 Chemistry and ANP 101. Taking ANP 102 is recommended. Science is not the only category in which applicants do not achieve the 25th percentile level.
2. If you are accepted into the program can you maintain a "C" average in each of the courses? Can you carry a load of 19 to 22 credits in some semesters?

According to the rules and regulations of the Indiana State Board of Nursing, a student must pass each course with a grade of "C" or better to graduate and to be eligible for licensure in Indiana. **The program must be completed within two years of admission to the program.**

The failure of two program course(s) will deny the student the right to continue in the program, and the student will be withdrawn. A student may repeat a failed program course one time. A failure of a second program course will result in withdrawal from the program.

An exception to the above paragraph: PNU 121 Introduction to Nursing I; PNU 122 Introduction to Nursing II. A student must make a "C" or better in each of the above courses and/or PNU 123 Pharmacology before progressing to the next semester.

PNU 121 Introduction to Nursing I must be passed with a “C” or better to progress to PNU 122 Introduction to Nursing II. A student must make a “C” or better in each of the above courses and/or PNU 123 Pharmacology before progressing to the next semester.

Note: If one “Care of the Adult” course is failed, a student cannot progress to the next “Care of the Adult” course within that semester.

All Ivy Tech State College policies concerning incomplete grades and academic probation will be followed. A 2.0 GPA in regular program courses must be maintained in order to progress each semester.

3. What are your work requirements and family commitments? The program typically requires your attendance between 30-40 hours per week. You must allow for study time to prepare for all courses in order to maintain your academic average to remain in the program.

Do you have adequate transportation to get to the clinical assignments as well as to the college for your courses?

Do you have adequate child care?

These are specific attendance requirements for the program. There are stringent rules of allowable absences. Attendance problems can lead to dismissal from the program during any semester.

4. Physical Criteria - Compliance with the American Disabilities Act.

- A. Vision: Correct to 20/20
- B. Hearing: Correct to normal with amplification for listening sounds: B/P; Breath; Abdominal
- C. Haptic: Related to sense of touch; within normal limits
- D. Manual Dexterity: Able to perform manipulative skills with speed, dexterity and agility
- E. Physical Strength: Able to lift with no restrictions
- F. Physical Mobility: Able to climb stairs, bend and stretch

5. You can decrease some of your course load in the first two semesters by completing any or all of the following courses before you are accepted into the program: ANP 101, ANP 102, APS 142 and HEW 101.

Special note: For some health programs, if you have been convicted of a crime you may not be eligible to be licensed/certified as a health practitioner.

# Public Safety Technology

## **Specialties:**

*Environmental Management*

*Fire Science*

*Hazardous Materials*

*Public Administration Specialties*

The Public Safety Technology Program is designed to meet the ongoing needs of municipalities, students, businesses, and industries. The program develops technical skills, general knowledge, critical thinking, and problem-solving abilities. Broad-based technical skills and critical thinking processes assist students in adapting to changes in the work environment and promoting successful advancement on the job. Additionally, the program prepares graduates to transfer to baccalaureate degree-granting institutions if they wish to continue their education.

## **Degrees Available**

Associate of Applied Science – 60-63 credits

## **Average Salary**

\$31,449 annually

# ASSOCIATE OF APPLIED SCIENCE

## Environmental Management

To receive this degree, you must earn 60 credits.

General Education Core		18 credits
SIC	101	Chemistry I
HSS	143	Speech
HEW	101	English Composition I
MAT	111	Intermediate Algebra
AP0	111	American National Government
SPS	101	Physical Science OR
SIL	101	Introductory Biology

Technical Core		18 credits
PST	120	First Responder
PST	121	Risk Management
PST	220	Incident Management System
PST	221	Computer Design and Planning
TEC	104	Computer Fundamentals for Technology
TEC	106	Hazardous Materials and Control

Specialty Core		15 credits
ENV	101	Intro to Environmental Technology
ENV	102	Environmental Management
ENV	103	Environmental Chemistry
ENV	110	Environmental Toxicology
HMT	200	Environmental Protection Agency (EPA) Regulations

Regionally Determined Core (choose four)		12 credits
ENV	104	Plant Operations-Sanitary
ENV	105	Air Management
ENV	106	Water Management
ENV	203	Environmental Microbiology
ENV	208	Plant Operations-Industrial
HMT	203	Sampling Procedures

## ASSOCIATE OF APPLIED SCIENCE

### Fire Science

To receive this degree, you must earn 63-64 credits.

General Education Core			18 credits
SIC	101	Chemistry I	3
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
APO	111	American National Government	3
SPS	101	Physical Science OR	
SIL	101	Introductory Biology	3
Technical Core			18 credits
PST	120	First Responder	3
PST	121	Risk Management	3
PST	220	Incident Management System	3
PST	221	Computer Design and Planning	3
TEC	104	Computer Fundamentals for Technology	3
TEC	106	Hazardous Materials and Control	3
Specialty Core			15 credits
AFS	102	Fire Apparatus and Equipment	3
AFS	103	Strategy and Tactics	3
AFS	201	Fire Protection Systems	3
AFS	202	Fire Service Management	3
AFS	204	Fire Service Hydraulics	3
Regionally Determined Core (choose four)			12-13 credits
AFS	100	Fire Suppression	3
AFS	101	Fire Technology	3
AFS	104	Building Construction Fire Service	3
AFS	105	Fire and Arson Investigation	4
AFS	108	Fire Prevention/Inspection	3
AFS	109	Fire Department Specifications	3

ASSOCIATE OF APPLIED SCIENCE

Hazardous Materials

To receive this degree, you must earn 60 credits.

<b>General Education Core</b>			<b>18 credits</b>
SIC	101	Chemistry 1	3
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
APO	111	American National Government	3
SPS	101	Physical Science OR	
SIL	101	Introductory Biology	3
<b>Technical Core</b>			<b>18 credits</b>
PST	120	First Responder	3
PST	121	Risk Management	3
PST	220	Incident Management System	3
PST	221	Computer Design and Planning	3
TEC	104	Computer Fundamentals for Technology	3
TEC	106	Hazardous Materials and Control	3
<b>Specialty Core</b>			<b>12 credits</b>
HMT	100	OSHA Regulations	3
HMT	104	Haz-Mat Health Effect	3
HMT	200	Environmental Protection Agency (EPA) Regulations	3
HMT	220	Hazardous Materials Recovery, Incineration and Disposal	3
<b>Regionally Determined Core</b>			<b>12 credits</b>
ENV	104	Plant Operator (Waste Water)	3
HMT	201	Contingency Planning	3
HMT	203	Sampling Procedures	3
HMT	205	DOT Regulations	3

## ASSOCIATE OF APPLIED SCIENCE

### Public Administration

To receive this degree, you must earn 60 credits.

General Education Core			18 credits
SIC	101	Chemistry I	3
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
APO	111	American National Government	3
SPS	101	Physical Science OR	
SIL	101	Introductory Biology	3
Technical Core			18 credits
PST	120	First Responder	3
PST	121	Risk Management	3
PST	220	Incident Management System	3
PST	221	Computer Design and Planning	3
TEC	104	Computer Fundamentals for Technology	3
TEC	106	Hazardous Materials and Control	3
Specialty Core			12 credits
BUS	105	Principles of Management	3
BUS	208	Organizational Behavior	3
OPM	224	Operations Management	3
APO	112	State-Local Government	3
Regionally Determined Core			12 credits
ACC	101	Accounting Principles	3
PST	288	Public Administration	3
PST	288	Internship	3
APO	201	Intro to Political Science	3

# Radiologic Technology

The Radiologic Technologist is someone who specializes in using x-rays to create images of the body. The radiographs that are produced by the radiographer enable the doctor to diagnose the patient for disease, fractures, or any irregularities. Therefore, a radiographer must be a professional who is skilled in the art and science of radiography and is able to apply scientific knowledge, problem-solving techniques, and use of high tech equipment, while providing quality patient care. Technologists are in demand in hospitals, clinics, physicians and dentists' offices, federal and state agencies, industry, and certain education institutions.

This program includes courses such as patient care, radiographic technique, positioning, radiation exposure, radiation protection, physics, pathology and ethics. (complete list in this section) Clinical practice and supplemental instruction are provided in accredited sites. Upon completion of this program, graduates are eligible to take the American Registry Examination given by the American Registry of Radiologic Technologists.

The Radiologic Technology Program is a full-time program. Once accepted students will rotate to the clinical sites and have didactic instruction at Ivy Tech State College.

For some health programs, you may not be eligible to be licensed or certified if you have been convicted of a felony.

## Average Salary

In central Indiana \$25,000 to \$39,000 per year depending on years of experience and specialty.

## Program Goals

The program goals of the Ivy Tech State College Radiologic Technology Program are to:

1. Educate students to perform radiology exams using the ALARA principle.
2. Provide educational experiences with various procedures adapted for age-specific patients.
3. Prepare students to be eligible to write the National Registry of Radiologic Technologist exam.
4. Examine student competency level to ensure improvement as program progresses.
5. Promote professionalism and continuing education throughout the program.



## ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 85 credits.

<b>General Education Core</b>			<b>21 credits</b>
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3
TEC	113	Basic Electricity	3
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
APS	142	General Psychology OR	
ASO	151	Principles of Sociology	3
<b>Technical Core</b>			<b>9 credits</b>
CIS	101	Introduction to Microcomputers	3
HHS	101	Medical Terminology	3
HHS	105	Medical Law and Ethics	3
<b>Specialty Core</b>			<b>55 credits</b>
RAD	111	Orientation and Patient Care	3
RAD	112	Image Production and Evaluation I	3
RAD	113	Radiographic Positioning I & Lab	3
RAD	114	Clinical Education I	4
RAD	115	Radiographic Positioning II & Lab	3
RAD	116	Clinical Education II	4
RAD	117	Physics & Equipment Operation	3
RAD	201	Radiographic Positioning III & Lab	2
RAD	202	Clinical Education III	4
RAD	203	Clinical Education IV	4
RAD	204	Clinical Education V	4
RAD	205	Radiographic Pathology	2
RAD	206	Radiobiology	3
RAD	209	Radiographic Positioning IV	3
RAD	218	Imaging Production & Evaluation II	2
RAD	220	Advanced Procedures and Special Modalities	2
RAD	288	Radiographic Pharmacology	3
RAD	299	General Exam Review	3

All courses will be reviewed for GPA by the admissions committee before consideration for interview.

## Application and Interview Information

If you are planning to apply to the Radiologic Technology Program, please read this information carefully.

The Radiologic Technology Program has a limited enrollment based on clinical site availability. Only 12 to 16 students are accepted into the program each year. Application and/or completion of prerequisite courses does not guarantee admission into the program.

**Students must have everything completed and submitted by March 1 preceding the fall semester for which they wish to be considered for admission.**

## General College Admission Procedures

In effect for all students applying for programs starting after January 1, 2001.

1. Fill out an application obtained from the admissions office – (317) 921-4800.
2. Submit an official high school transcript or GED and previous college transcript to the registrar's office. Make sure that the transcripts are mailed by your previous school to the registrar at Ivy Tech State College.
3. Complete the ASSET Test for radiologic technology. If indicated, complete with a "C" or higher any foundation courses before taking program-level courses.
4. Complete all prerequisite courses or be in the process of completing them during semester of application with a GPA of 2.5 or higher to be considered for admission.
5. Two hospital radiology department visits for four hours to shadow a technologist are required. These visits must be scheduled through the program. Call (317) 921-4414.
6. Write and submit to the program chair a 500- to 700-word report based on your hospital visits and why the Radiologic Technology field is good for you.
7. Student must be 18 before starting the clinical portion of the program.
8. Any accepted student must also meet requirements by the state licensing agency. The student will be notified of these upon acceptance to the program.
9. Acceptance into the program will be conditional until a completed physical form has been returned to the program. Students will be given more information upon acceptance into the program.

Students meeting all of the requirements by the end of the spring semester will be invited to an interview with the Radiologic Technology Program admissions committee. Interviews will be at the end of March or beginning of April.

Prior to completion of general education courses, you will register with the academic advising office or the health counselor in the Health Sciences division office. After completion of prerequisite general and technical core courses, you will need to contact the Radiologic Technology program chair in order to register for classes.

**Registration with someone else could delay admission to the program.**

Below is a suggested sequence for taking prerequisite courses.

**Semester 1**

HHS 101 Medical Terminology

MAT 111 Intermediate Algebra

**Semester 2**

ANP 101 Anatomy and Physiology I

TEC 113 Basic Electricity or a Science course approved by the department

**Semester 3**

ANP 102 Anatomy and Physiology II

CIS 101 Introduction to Microcomputers

**Courses below may be out of sequence:**

APS 142 General Psychology

ASO 151 Principles of Sociology

HEW 101 English Composition I

HSS 102 Medical Law and Ethics

HSS 143 Speech

The information in this document is intended for informational purposes only. This material in no way comprises a contractual agreement and is subject to change without notice at any time.

**Special note**

For some health programs, if you have been convicted of a crime you may not be eligible to be licensed or certified as a health practitioner. We recommend that you check with the program advisor for your areas of interest. Their phone numbers are listed in the handbook.

**Visiting a Radiology Department**

Scheduled visits should be through the program office (317) 921-4438. After completing your visits, write a 500- to 700- word paper addressing your impressions of the visits and why you think this is a good field for you to go into. The visits should take place during the fall or spring semester prior to interviewing. If you are interviewing a second time, clinical visits must be repeated. The clinical instructor at the sites must fill out the hospital verification forms and they will return them to the program director.

**Student visits will be scheduled at two of the following sites:**

- Bloomington Hospital  
Bloomington, IN  
Contact: Sherri Edie, BS, R.T. (R)  
812-353-9356 or 812-353-5636
- St. Vincent's Hospital  
Indianapolis, IN  
Contact: David Sidor, B.S. R.T. (R)  
317-338-2868
- Johnson Memorial  
Franklin, IN  
Contact: Kellie Cranfill, BS, RT (R)  
317-736-3474
- Westview Hospital  
Indianapolis, IN  
Contact: Sherry Cialdella  
317-920-7554
- Winona Memorial Hospital  
Indianapolis, IN  
Contact: Haya Bannourah, AAS, RT (R)  
317-927-2331

Please be on time for your site visit and dress appropriately for your clinic visits. Should you have any further questions you may contact Ann Sisel at 921-4438.

## Hospital Visitation Verification Form

Student \_\_\_\_\_

Visitation Site \_\_\_\_\_

Visitation Date \_\_\_\_\_

Arrival Time \_\_\_\_\_

Departure Time \_\_\_\_\_

Visitation Coordinator \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**Please leave this form with the clinical instructor at the site you visited.**

## **Hospital Visitation Verification Form**

Student \_\_\_\_\_

Visitation Site \_\_\_\_\_

Visitation Date \_\_\_\_\_

Arrival Time \_\_\_\_\_

Departure Time \_\_\_\_\_

Visitation Coordinator \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**Please leave this form with the clinical instructor at the site you visited.**

**Notice of Intent**

This is a notice of intent for the following student to enter the Radiologic Technology Program. This notice should be on file in the program office no later than March 1 of the year in which the student wishes to be admitted to the program.

Name \_\_\_\_\_

Address \_\_\_\_\_

City, ST Zip \_\_\_\_\_

Home phone \_\_\_\_\_

Work phone \_\_\_\_\_

Student ID number \_\_\_\_\_

I wish to be considered for admission into the (year) \_\_\_\_\_ class for Radiologic Technology.

Student signature \_\_\_\_\_

Date \_\_\_\_\_

## **Admission Process**

Students who wish to apply to the Radiologic Technology program starting in the fall session must have on file in the radiology technology program office all of the following information on or before March 1.

1. Notice of intent sent to program director
2. Ivy Tech application
3. High school transcript
4. Transcripts from all previous colleges and universities
5. Admission test scores (ASSET test score)
6. Documentation of hospital visitations.
7. A 500- to 700-word paper on hospital visitation and why Radiologic Technology is a good field for you.
8. Show or complete current enrollment in all prerequisite classes.
9. Two letters of recommendation.

## **Selection Process**

Only those applicants with complete files will be offered an interview with the admissions committee. The personal interview is a privilege offered to the applicant by the committee. Not all applicants will be interviewed.

**Students are admitted into the Radiologic Technology program based upon the following criteria:**

- College GPA
- Personal interview
- 500- to 700-word paper
- Hospital visitations
- Letters of recommendation

**Questions about the admission process should be addressed to the program chair.**

**Admission Checklist**

- |          |   |  |
|----------|---|--|
| _____ 1. | Submit application to the admissions office.  | At time of application to college                  |
| _____ 2. | Submit official high school transcript to the registrar's office.                   | At time of application to college                  |
| _____ 3. | Submit any previous college transcripts to the registrar's office.                  | At time of application to college                  |
| _____ 4. | Complete the skills assessment test (ASSET) for Radiologic Technology.              | Upon admission to college                          |
| _____ 5. | Complete all general education courses as determined by the skills assessment test. | Upon admission to college                          |
| _____ 6. | Submit General Technical Studies <i>Change of Program</i> form.                     | Upon acceptance into Radiologic Technology program |

**To be considered for an interview with the program committee, you must:**

- |           |   |  |
|-----------|---|--|
| _____ 7.  | Complete all prerequisite courses with a GPA of 2.5 or higher.  | While enrolled in General Technical Studies                        |
| _____ 8.  | Submit a notice of intent to the Radiologic Technology program office.  | Prior to March 1 of the year you are applying to begin the program |
| _____ 9.  | Visit two assigned radiology departments at program clinical sites and submit to the program office a 500- to 700-word paper of what was observed and why Radiologic Technology is a good field for you to enter. | Fall or spring semester before applying to program                 |
| _____ 10. | Send 2 letters of recommendation to program chair.  | Must be turned in to the program chair by March 1                  |



# Respiratory Care

A respiratory care practitioner is an allied health professional who works under the direction of physicians in the diagnosis, evaluation, treatment, education and care of patients with cardiopulmonary diseases or abnormalities.

A graduate of the Associate of Applied Science program will be eligible to sit for the Entry Level and Advanced Practitioner exams given by the National Board for Respiratory Care (NBRC). Successful exam candidates will be awarded the Registered Respiratory Therapist credential. The program's pass rate for the national exam exceeds national averages.

The two-year Associate of Applied Science degree requires 79 credits for completion.

The Associate Degree program is offered on both a full-time and part-time track. Both tracks require set courses each semester for the duration of the program. Students are accepted into either the full-time program or the part-time program. The full-time program is four semesters in length (18 credits per semester) and starts in the spring semester of each year. The part-time program is six semesters in length (9-12 credits per semester) and starts in the fall semester each year. Students may start their general education courses any semester. Students should contact the program chairperson for specific curriculum and admission information.

## **Degree Available**

Associate of Applied Science – 79 credits

## **Average Salary**

\$36,000 annually as reported by graduate respondents

ASSOCIATE OF APPLIED SCIENCE - FULL-TIME

To receive this degree, you must earn 79 credits.

<b>Prerequisites</b>			<b>18 credits</b>
ANP	101	Anatomy & Physiology I	3
SIL	211	Microbiology for Health Professionals I	3
SIC	101	Chemistry I	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
APS	142	General Psychology	3
<b>Semester 1 (spring)</b>			<b>18 credits</b>
ANP	102	Anatomy & Physiology II	3
RES	121	Introduction to Respiratory Care	6
RES	122	Therapeutic Modalities	3
RES	123	Cardiopulmonary Physiology	3
RES	124	Clinical I	3
<b>Semester 2 (summer)</b>			<b>12 credits</b>
RES	125	Critical Care I	3
RES	126	Clinical Medicine I	3
RES	127	Clinical II	3
RES	223	Pharmacology	3
<b>Semester 3 (fall)</b>			<b>15 credits</b>
RES	128	Clinical III	9
RES	221	Cardiopulmonary Diagnostics	3
RES	222	Critical Care II	3
<b>Semester 4 (spring)</b>			<b>16 credits</b>
RES	227	Clinical IV	6
RES	226	Continuing Care	2
RES	224	Clinical Medicine II	3
RES	229	Emergency Management	2
HEW	108	Technical Writing	3

\*HSS 143 or HSS 148 may substitute for HEW 108

**Letter of Intent - Full-Time Program**  
**Ivy Tech State College**  
**RESPIRATORY THERAPY PROGRAM**  
Letter of Intent - Full-Time Program

I have completed or will have completed all of my prerequisite courses by January of \_\_\_\_\_, therefore it is my intent to apply for entrance into the full-time class at Ivy  
(year)  
Tech State College Respiratory Therapy Program. I realize that classes start in January of  
the year \_\_\_\_\_.

Thank you,

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
City, State & Zip Code

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
E-mail address

\_\_\_\_\_  
Social Security Number

# ASSOCIATE OF APPLIED SCIENCE – PART-TIME

To receive this degree, you must earn 79 credits.

Prerequisites		18 credits
ANP	101	Anatomy & Physiology I
SIL	211	Microbiology for Health Professionals I
SIC	101	Chemistry I
HEW	101	English Composition I
MAT	111	Intermediate Algebra
APS	142	General Psychology

Semester 1 (fall)		12 credits
RES	121	Introduction to Respiratory Care
RES	123	Cardiopulmonary Physiology
RES	124	Clinical I

Semester 2 (spring)		9-12 credits
RES	122	Therapeutic Modalities
RES	126	Clinical Medicine I
xxx	xxx	General Education requirement
xxx	xxx	General Education requirement

Semester 3 (summer)		9 credits
RES	125	Critical Care I
RES	127	Clinical II
RES	223	Pharmacology

Semester 4 (fall)		12 credits
RES	128	Clinical III
RES	222	Critical Care II

Semester 5 (spring)		13 credits
RES	227	Clinical IV
RES	226	Continuing Care
RES	224	Clinical Medicine II
RES	229	Emergency Management

Semester 6 (summer)		4-6 credits
RES	221	Cardiopulmonary Diagnostics
xxx	xxx	General Education requirement

**Letter of Intent - Part-Time Program**  
**Ivy Tech State College**  
**RESPIRATORY THERAPY PROGRAM**  
Letter of Intent - Part-Time Program

I have completed or will have completed all of my prerequisite courses by January  
of \_\_\_\_\_, therefore it is my intent to apply for entrance into the part-time class at Ivy  
(year)  
Tech State College Respiratory Therapy Program. I realize that classes start in January of  
the year \_\_\_\_\_.

Thank you,

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
City, State & Zip Code

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
E-mail address

\_\_\_\_\_  
Social Security Number

**Tips for Successful Completion of Prerequisites:**

1. Do not take Chemistry before Algebra.
2. In order to be ready for Chemistry, the student should achieve a "C" or better in Algebra.
3. Psychology and English can be taken together.
4. Any general education course is ok with one science course.
5. It is an acceptable work load to take Anatomy/Physiology with 1 other science course. but not in the summer unless you are an exceptional student and are not working.
6. Do not take Anatomy/Physiology, Microbiology and Chemistry together unless you are a full time student, not working and live at home.
7. Any science course is hard during the summer unless it is 1 course only.
8. It is better to take Anatomy/Physiology 2 and Technical Writing or its equivalent before entering the program.
9. To transfer a course the student must have a "C" or better unless it was part of another degree.
10. For every hour that the student is in class, 3 hours outside of class should be spent studying for that class.
11. Other courses that can be helpful:
  - HHS 101 Medical Terminology
  - MEA 205 Electrocardiograms (3)
  - MEA 212 Phlebotomy (3)
  - HHS 105 Medical Law and Ethics (3)
  - MEA 102 First Aid and CPR (2)
  - CSI 174 Computer Literacy (2)
  - HLS 101 Spanish I (4)
  - HLS 103 Spanish II (4)

**When you have 3 or less prerequisites left, make an appointment with the Respiratory Therapy Program Chair at (317) 921-4410 or with the Director of Clinical Education at (317) 921-4696 for further assistance.**

**Ivy Tech State College**

**RESPIRATORY THERAPY PROGRAM**

One West 26th Street

Indianapolis, IN 46206

**Program Chair:**

Marcus Stowe MS, RRT (317) 921-4410,

E-mail: mstowe@ivytech.edu

**Director of Clinical Education:**

Jennifer Reece RN, RRT (317) 921-4696,

E-mail: jreece@ivytech.edu

**Check list for Respiratory Therapy Program:**

- \_\_\_\_\_ 1. Completed prerequisites
- \_\_\_\_\_ OR lack only one(1) prerequisite course
- \_\_\_\_\_ 2. Sent your Letter of Intent to Program Chair by March 1 for the part-time program and August 1 for the full-time program
- \_\_\_\_\_ 3. Had your official transcripts from previous colleges and universities sent to the program chair by March 1 for the part-time program and August 1 for the full-time program  
(hand delivered transcripts will not be accepted)
- \_\_\_\_\_ 4. Had five letters of recommendation sent to the Program Chair by March 1 for the part-time program and August 1 for the Full-time program. Each recommendation must be signed or it will not be valid  
(hand delivered letter of recommendations will not be accepted)
- \_\_\_\_\_ 5. Attended an orientation session with the Program Chair and/or Director of Clinical Education. You may find out when these sessions are by calling (317) 921-4800
- \_\_\_\_\_ 6. Put together your professional portfolio for the interview  
Should contain the minimum of the following
  - your personal statement (500 word essay)
  - two (2) hospital visitation forms
  - previous employer evaluations
  - any pertinent/appropriate certificates
  - SEE THE PORTFOLIO INFORMATION SHEET INCLUDED THIS SECTION
- \_\_\_\_\_ 7. Signed up for the interview once you receive a letter with the dates and times

## Personal Portfolio

Your personal portfolio is a representation of yourself and your achievements as well as your weaknesses. It should address how you are working on your weakness and what you have learned about yourself.

The portfolio should contain the following:

- Personal statement for what your future career and personal goals are, what becoming a Respiratory Care Practitioner will do for you, why should you be allowed into this program. This should be a 500-word typed essay.
- Documentation of 2 hospital visits (forms provided)
- Any certificates from other health care programs or courses
- Any appropriate previous employer evaluations
- Any other documentation that you feel will represent yourself well

You must have your official transcripts and 5 letters of recommendation sent to the program chair. These items will not be accepted if hand delivered. The letter of intent, which is provided, the transcripts and the 5 letters of recommendation must be turned in by April 1 for the part-time program and September 1 for the full-time program in order to be considered a viable applicant.

You may choose to use the following resources for developing your personal portfolio or you may choose your own format.

Websites:      Professional Portfolio Guide  
                    Portfolio Library

The portfolio should be brought with you to the interview in a binder. Remember, this is a professional representation of yourself. It will be reviewed for the following criteria and each category could receive 20 points each for a total of 100:

Completeness: all of the above items must be present  
Creativity  
Professional presentation  
Grammar and punctuation  
Ability to follow directions



**The following hospitals have an affiliation agreement with Ivy Tech State College. The prospective student can contact the individuals below to set a date and time for a hospital visitation.**

1. Ball Memorial	Kathy Stephens	(765) 741-1085
2. Bloomington Hospital	Ted Jackson	(812) 353-9595
3. Columbus	Jane McLeod	(812) 376-5312
4. Hendricks	Bob Weaver	(317) 745-3486
5. Johnson Memorial	Brenda Wilkerson	(317) 736-3261
6. Kindred on 10th Street	Marsha Brown	(317) 636-4400 ext. 4011
7. Kindred in Greenwood	Michael Morris	(317) 888-8155
8. Major Hospital	Don Barton	(317) 421-5681
9. Methodist	Pat Doyle	(317) 929-6174
10. Midtown	Sue Bauers	(317) 924-1325
11. Putnam County	Sandy Park-Teelon	1-800-394-9338 ext. 2652
12. Riley	Collen Finley	(317) 274-1002
13. Riverview	Nancy Collett	(317) 776-7906
14. St. Francis	Dan Wilson	(317) 783-8645
15. St. Vincent	Barbara Riordan	(317) 338-1269
16. Select at Methodist	Scott Dybedock	(317) 931-5212
17. Select at St. Francis	Ellen Mallory	(317) 782-6546
18. Union in Terre Haute	Romin McCallister	(812) 238-4919
19. University Hospital	Chuck Christoph	(317) 274-1674
20. VA	Jewel Hicks	(317) 554-0000 ext. 2923
21. Westview	Mike Weingartner	(317) 921-7155
22. Winona	Rick Lush	(317) 927-2443
23. Wishard	Maria Oparah	(317) 630-6135
24. Witham Memorial	Linda Smith	(765) 482-8695

Ivy Tech State College  
Hospital Visitation Verification Form  
RESPIRATORY CARE PROGRAM

The perspective student should spend a minimum of 3 - 4 hours at the hospital during each visit. The therapist should attempt to expose the prospective student to as many different types of patients, hospital personnel and areas as possible.

Student Name \_\_\_\_\_

Visitation Site \_\_\_\_\_ Visitation Date \_\_\_\_\_

Arrival Time \_\_\_\_\_ Arrival Time \_\_\_\_\_

Therapist's Signature \_\_\_\_\_

Based on your visit and discussions with the respiratory therapists and other staff, answer the questions below:

1. What did you learn from your visit to the hospital?
2. Did you see anything that makes you think this field is not for you?
3. What part of your visit surprised you the most and why?

## **Non-Traditional or Returning Student Application Procedures**

### **Ivy Tech Technician Graduate**

If you have graduated from an Ivy Tech technician program and are now a CRT, you may apply to complete your RRT and/or your Associate of Applied Science degree. All applicants must demonstrate current CRT-level knowledge by having passed the CRT exam in the last two years OR must retake the current CRT exam. Please read below to see which category applies to you.

#### **A. Currently a CRT who wishes to become only RRT eligible.**

You must:

- 1) Have four years of experience past date of certification.
- 2) Have a total of 62 semester hours of classes required by NBRC. These classes must be verified by the NBRC.\*
- 3) Complete the classes listed by the NBRC.\*\*

#### **B. Currently a CRT who wishes to upgrade to RRT/AAS.**

You must:

- 1) Complete RRT-level classes/general education classes.\*\* (See attached sheet) OR
- 2) Show completion of RRT exam via route requiring 62 semester hours of classes and four years post-CRT experience. Successful completion of registry exam will count for the registry-level classes. Complete required general education classes. This route will require verification from NBRC.

#### **C. Currently a RRT who graduated from an Ivy Tech technician program and wishes to gain an Associate of Applied Science degree.**

You must:

- 1) Complete required general education classes. (See attached sheet for classes)\*

### **Non-Ivy Tech Technician Graduate**

If you are a CRT who has graduated from any CoARC approved program, you may apply to complete the registry and/or associate degree program. Please read below to see which category applies to you.

#### **A. Currently a CRT who wishes to become only registry eligible.**

You must:

- 1) Have four years experience past date of certification and demonstrate 62 semester hours. The NBRC will tell you what credits you are missing.\* These credits may be taken at Ivy Tech.\*\* No degree is awarded.

**B. Currently a CRT who wishes to gain an Associate of Applied Science degree and become registry eligible.**

You must:

- 1) Demonstrate current knowledge by having passed the CRT exam in the last two years  
OR retake current CRT exam.
- 2) Apply for admission to Ivy Tech and take ASSET/Success seminar test.
- 3) Provide Ivy Tech with a copy of all college transcripts. Applicable classes will be transferred. Work experience will be granted for CRT level classes.
- 4) Complete class list given to you by program faculty. The list of classes will depend on college-level work already completed and results of ASSET test.

\* The NBRC may be contacted at: NBRC Executive Office, 8310 Nieman Road, Lenexa, Kansas 66214; (913) 599-4200

\*\* All applicants to Ivy Tech may be asked to take the ASSET exam at the time of admission. Waivers for this exam may be discussed with program chair or testing department staff.

Additional questions concerning the program should be directed to: Respiratory Care Practitioner Program, Ivy Tech State College, P.O. Box 1763, Indianapolis, IN 46206-1763; (317) 921-4410; Program Chair Marcus Stowe, MS, RRT; Director of Clinical Education Jennifer Reece RN, RRT; Email: [mstowe@ivytech.edu](mailto:mstowe@ivytech.edu).

## Proposed Credit List for California College CRT Graduate Respiratory Care Practitioner Program

Student name \_\_\_\_\_

SS# \_\_\_\_\_

### Required General Education Courses

ANP	101	Anatomy & Physiology I	3	CRT
ANP	102	Anatomy & Physiology II	3	CRT
SIC	101	Chemistry I	3	
MAT	111	Intermediate Algebra	3	
SIL	211	Microbiology	3	
HEW	101	English Composition	3	
APS	142	Introduction to Psychology	3	
HEW	108	Technical Writing	3	

### Required Technical Courses

RES	121	Introduction to Respiratory Care	6	CRT
RES	122	Therapeutic Modalities	3	CRT
RES	123	Cardiopulmonary Physiology	3	
RES	124	Clinical Practicum I	3	CRT
RES	125	Critical Care I	3	CRT
RES	126	Clinical Medicine I	3	CRT
RES	127	Clinical Practicum II	3	CRT
RES	128	Clinical Practicum III	9	CRT
RES	221	Cardiopulmonary Diagnostics	3	
RES	222	Critical Care II	3	
RES	223	Pharmacology	3	*
RES	224	Clinical Medicine II	3	
RES	229	Emergency Management	2	*
RES	226	Continuing Care	2	*
RES	227	Clinical Practicum IV	6	*

Total credits for AAS/RRT 79

\*Advanced placement is possible. List may vary from person to person.

Date of completion \_\_\_\_\_

Program chair signature \_\_\_\_\_

## Application steps for CRT to RRT/AAS program

1. Complete application for admission to college.
2. Provide copy of all college transcripts, CRT certificate, and state certification.
3. Take ASSET test for college admission.
4. Retake CRT exam provided by Ivy Tech to verify current CRT knowledge levels.  
Must pass at national standard.
5. Meet with program faculty to develop curriculum list.

## Sample curriculum schedule

### Semester 1 (spring)

RES	123	Cardiopulmonary Physiology	3 hrs/wk
xxx	xxx	General Education Requirement	3 credits

### Semester 2 (summer)

RES	223	Pharmacology	3 hrs/wk
RES	229	Emergency Management	2 credits

### Semester 3 (fall)

RES	222	Critical Care II	3 hrs/wk
RES	226	Clinical Medicine II	3 hrs/wk
RES	227	Clinical Practicum IV	1-3 credits

### Semester 4 (spring)

RES	221	Cardiopulmonary Diagnostics	3 hrs/wk
RES	226	Continuing Care	2 hrs/wk
RES	227	Clinical Practicum IV	1-3 credits

### Semester 5 (summer)

RES	227	Clinical Practicum IV	1-3 credits
xxx	xxx	General Education Course	1-3 credits

### Semester 6 (fall)

xxx	xxx	General Education Course	3-6 credits
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### Semester 7 (spring)

xxx	xxx	General Education Course	3-6 credits
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\*RES 227 must total six credits

## General Education courses taken at time to be decided upon by participants:

MAT	111	Intermediate Algebra	3
SIC	101	Chemistry I	3
HEW	101	English Composition	3
APS	142	Introduction to Psychology	3
HEW	108	Technical Writing	3
SIL	211	Microbiology	3
ANP	101	Anatomy and Physiology I	3
ANP	102	Anatomy and Physiology II	3

# **Surgical Technology**

The surgical technologist is a highly-skilled member of the surgical team, qualified by didactic and clinical education to provide safe and efficient care to the patient in the operating room. The didactic education consists of courses in anatomy and physiology, microbiology, pharmacology, medical law and ethics, surgical techniques, and surgical procedures. Closely supervised clinical education is provided in local area hospitals.

The surgical technologist actively participates in surgery by performing scrub and/or circulating duties which include: passing instruments and supplies to the surgical team members, preparing and positioning the patient, operating equipment, assisting the anesthesiologist, and keeping accurate records. Students are required to complete foundation courses prior to the clinical education. The program is two calendar years in length, requiring 67 credits leading to an Associate of Applied Science degree.

The program is accredited by the Committee on Allied Health Education Accreditation with the Joint Review Committee on Education for Surgical Technologists. The full-time program begins during the fall semester each year and includes the spring semester and an 11-week summer session. The general education courses can be started any semester. Graduates receive an Associate of Applied Science degree. Upon completion of the program, students are eligible to take the National Certification Exam for Surgical Technologists.

The following facilities have collaborated with the college as clinical sites for practical work experiences required in the program: Community East Hospital, St. Vincent's Hospital and Health Care Center, Community North, St. Vincent-Carmel, Hancock Memorial Hospital, Indiana Surgery Center East - St. Francis Hospital, Westview Hospital, and Wishard Hospital.

The starting salary is \$10.50 to \$13 per hour in hospitals and can increase up to 25 percent due to shift differentials.

## **Degrees Available**

Associate of Applied Science – 69 credits

## **Average Salary**

\$23,233 annually

ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 69 credits.

General Education Core			22 credits
ANP	101	Anatomy & Physiology I	3
ANP	102	Anatomy & Physiology II	3
SIL	211	General Microbiology	4
HSS	143	Introduction to Public Speaking OR	
HSS	148	Interpersonal Communication	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
APS	142	General Psychology OR	
ASO	151	Principles of Sociology	3

Technical Core			47 credits
SUR	111	Fundamentals of Surgical Technology	4
SUR	112	Application of Surgical Fundamentals	2
SUR	113	Surgical Procedures I	3
SUR	114	Clinical Application I	3
SUR	211	Surgical Procedures II	6
SUR	212	Clinical Application II	9
SUR	213	Surgical Procedures III	3
SUR	214	Clinical Application III	8
HHS	101	Medical Terminology	3
HHS	105	Medical Law/Ethics	3
SUR	288	Pharmacology	3

Suggested courses that help develop students for required courses. These courses are not required, and they do not count toward the program.

ENG	007	Spelling	1
BIO	065	Basic Life Sciences	3
PHL	071	Critical Thinking	3
CIS	074	Computer Literacy	2
IVY	070	College and Life Success Skills	3



## **Associate of Applied Science – Admission Requirements**

A Certified Surgical Technologist (CST) is a member of the surgical team of surgeons, anesthesiologists and certified registered nurse anesthetists, registered nurses, and other surgical personnel in delivering patient care and assuming appropriate responsibilities before, during, and after surgery.

A surgical technologist acts as the sterile person or “scrub,” who handles sterile instruments, supplies, equipment, medications, solutions, and many other sterile devices necessary during surgical procedure. The surgical technologist may also act as the unsterile person or “circulator,” who obtains additional instruments and supplies while the operation is in progress.

Graduates of accredited programs are eligible to take a national certification exam. Satisfactory performance on the exam allows the surgical technologist to earn professional credentials and certification, and thus become a CST, or Certified Surgical Technologist. Certification is maintained by accruing 80 contact hours of approved continuing education in a consecutive six-year period.

### **Work conditions**

Surgical technologists work in clean, well-lighted, cool environments in a confined area of the hospital or other institutions. They need physical stamina in order to work under stressful conditions. Some surgical procedures last for several hours. An excellent job attendance record is necessary in order to become a responsible member of the surgical team.

### **Employment**

Many surgical technologists are employed in hospital operating rooms, delivery rooms, cast rooms, emergency departments, ambulatory care areas, and central supply departments. Some serve in management roles in surgical services departments. In the private scrub role, they are employed directly by surgeons, while others work as first/surgical assistants. They are utilized in clinics and surgicenters; in ophthalmologists, physicians, and dentists offices; and in home health care. Some may also be licensed practical nurses.

### **Starting pay range**

Average starting pay is \$10.50 to \$13 per hour. Additional differential is possible depending upon shift hours and on-call hours worked.

### **Length of program**

Study requires two years (five semesters). Graduates receive an Associate of Applied Science degree in Surgical Technology.

### **Class starts**

First-year students can begin the program in any semester. Second-year students will begin study Monday through Friday in the fall semester (August).

### **Number of students accepted per class**

This number is based upon the number of clinical training sites available at time of clinical.

### **Physical criteria – In compliance with the American Disabilities Act**

- Vision – correct to 20/20
- Hearing – correct to normal with amplification listening to sounds
- Haptic – related to sense of touch; within normal limits
- Manual dexterity – able to perform manipulative skills with speed, dexterity and agility
- Physical strength – able to lift with no restrictions
- Physical mobility – able to climb stairs, bend and stretch

### **Admission criteria**

To be considered for admission into the clinical portion of the program you must complete the steps by May 1. Students who have completed the following steps will be invited to interview with the admissions committee.

1. Complete an Ivy Tech application for admission into the college and submit it to the admissions office.
2. Submit high school transcript or GED and previous college transcripts to the admissions office. These may be mailed.
3. Complete ASSET test if required. Students must complete with a “C” or better any remedial courses prior to taking college-level courses. Absolutely no waivers will be granted for foundation courses if ASSET scores are low.
4. Complete all General Education courses and Technical Core courses coded as HHS with a “C” or better.
5. Mandatory meeting with program chair in April. Dates are posted.
6. PSB Test is required. Deadline is April. Taken before selection of candidates in May for fall classes.
7. Candidates for fall class interviewed in June.

# Visual Communications

## **Specialties:**

*Graphic Design*

*Multimedia*

Students entering the Visual Communications program are exposed to a broad technical core of courses representing key topics such as organizing the visual field, color theory and application, image acquisition and manipulation, the computer as a powerful tool, the professional visual artist as a business person and the exit portfolio.

The Indianapolis program offers an Associate of Applied Science degree with specialties in the areas of graphic design and multimedia.

The program also offers various Associate of Science degrees depending on the articulating institution.

The college is accredited by the North Central Association of Colleges and Universities.

## **Degrees Available**

Associate of Applied Science - 66 credits

Associate of Science - see program advisor for curriculum

## **Average Salary**

In central Indiana salary ranges will vary depending on years of experience, specialty, and exit portfolio but generally will be between \$25,000 and \$39,000 annually.

# ASSOCIATE OF APPLIED SCIENCE

To receive this degree, you must earn 66 credits.

General Education Core			18 credits
HSS	143	Speech	3
HEW	101	English Composition I	3
MAT	111	Intermediate Algebra	3
SPS	101	Physical Science	3
xxx	xxx	HUM/SOC/SCI Elective	3
xxx	xxx	HUM/SOC/SCI Elective	3

Technical Core			18 credits
*VIS	101	Fundamentals of Design	3
VIS	102	Fundamentals of Imaging	3
*VIS	115	Introduction to Computer Graphics	3
VIS	201	Electronic Imaging	3
VIS	205	Business Practices for Visual Artists	3
VIS	207	Portfolio Preparation	3

Choose one of the following specialties:

Graphic Design Specialty Core			18 credits
*ART	111	Drawing for Visualization	3
ART	112	Electronic Layout	3
ART	114	Graphic Design	3
*ART	115	Typography	3
ART	116	Electronic Illustration	3
ART	217	Advanced Graphic Design	3

Regional Core			12 credits
ART	117	Production	3
ART	202	Special Projects	3
VIS	110	Web Design and Authoring	3
VIS	209	3-D Rendering and Animation OR	
VIS	288	Advanced Web Animation	3

Multimedia Specialty Core			18 credits
*PHO	106	Studio Practices	3
VIS	103	Interactive Media I	3
VIS	105	Video and Sound 1	3
VIS	209	3-D Rendering and Animation	3
ART	115	Typography	3
ART	116	Electronic Illustration	3

Regional Core			12 credits
ART	202	Special Projects	3
VIS	110	Web Design and Authoring	3
VIS	206	Interactive Media II	3
VIS	288	Advanced Web Animation	3

\* Courses marked do not require a prerequisite.

**ACC 101 Principles of Accounting I****3 Credits**

Prerequisites: ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II, MAT 044 - Mathematics, or demonstrated competencies. Introduces the fundamental principles, techniques, and tools of accounting. Presents the mechanics of the accounting cycle including collecting, recording, summarizing, analyzing, and reporting information pertaining to service and mercantile enterprises. Covers internal control, deferred charges, notes and interest, valuation of receivables, payrolls, inventory, and plant assets.

**ACC 102 Principles of Accounting II****3 Credits**

Prerequisites: ACC 101 - Principles of Accounting I. Continues the study of accounting to include partnership and corporate accounting systems. Covers preparation and analysis of financial statements and long-term liabilities and investments. Introduces cost, managerial, branch, and non-profit accounting techniques.

**ACC 105 Income Tax I****3 Credits**

Prerequisites: ACC 101 - Principles of Accounting I (or) with program advisor approval. Offers an overview of federal and state income tax law for individuals including taxable income, capital gains and losses, adjustments, standard and itemized deductions, tax credits and appropriate tax forms. Introduces tax concepts needed by a sole proprietorship.

**ACC 106 Payroll Accounting****3 Credits**

Prerequisites: ACC 101 - Principles of Accounting I. Covers payroll calculating and reporting including various federal and state withholding taxes, employer payroll taxes, typical insurance and other arrangements affecting the preparation of payroll registers, and employees' earnings records. Includes computerized payroll.

**ACC 108 Career Essentials of Accounting****3 Credits**

Prerequisites: None. Introduces the basic principles of accounting as utilized in a variety of office settings. Includes the principles of debit and credit, double-entry bookkeeping, use of journals and analyzing transactions. Covers uses of ledgers, posting procedures, petty cash, banking procedures, payroll, depreciation, work sheets, balance sheets and income statements.

**ACC 109 Personal Finance****3 Credits**

Prerequisites: None. Examines the process of setting and achieving financial goals. Emphasizes managing financial resources, budgeting for current expenses, projecting cash flow, and managing short- and long-term credit. Includes use of insurance to reduce risks and vehicles for saving and investing.

**ACC 111 Accounting Principles Lab I****1 Credit**

Prerequisites: Enrollment in ACC 101 - Principles of Accounting I (or) with program Advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Principles of Accounting I course. Introduces the touch-method of numeric input on a calculator and includes computerized problems.

**ACC 112 Accounting Principles Lab II****1 Credit**

Prerequisites: Enrollment in ACC 102 - Principles of Accounting II (or) with program Advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Principles of Accounting II course. Uses computerized problems.

**ACC 113 Income Tax Lab****1 Credit**

Prerequisites: Enrollment in ACC 105 - Income Tax I (or) with program Advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Income Tax I course. Uses computerized problems.

**ACC 114 Payroll Accounting Lab****1 Credit**

Prerequisites: Enrollment in ACC 106 - Payroll Accounting (or) with program Advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in the Payroll Accounting course. Uses computerized problems.

**ACC 118 Financial Concepts for Accounting****3 Credits**

Prerequisites: None. Develops math skills needed in the business field and serves as a basis for course work in business. Includes the study of business applications using rational numbers, algebraic equations, time value of money concepts and basic statistics.

**ACC 201 Intermediate Accounting I****3 Credits**

Prerequisites: ACC 102 - Principles of Accounting II. Studies accounting principles and applications at an intermediate level pertaining to the income statement and balance sheet, cash and short-term investments, receivables, inventories, plant assets and intangible assets, current and contingent liabilities, corrections of errors and statement of cash flows. Includes analysis of bad debts, inventory valuation, repairs and maintenance, depreciation of plant assets, and present value applications.

**ACC 202 Intermediate Accounting II****3 Credits**

Prerequisites: ACC 201 - Intermediate Accounting I. Continues studies of Intermediate Accounting I. Includes investments, long-term debt, stockholders' equity, special accounting problems and analysis, statement of cash flows and financial statement analysis. Also includes corporate capital and treasury stock transactions, dividends, earnings per share, accounting for income taxes, correction of errors and creation of financial statements from incomplete records.

**ACC 203 Cost Accounting I****3 Credits**

Prerequisites: ACC 102 - Principles of Accounting II. Examines the manufacturing process in relation to the accumulation of specific costs of manufactured products. Studies various cost accounting report forms, material, labor control and allocation of manufacturing costs to jobs and departments.



**ACC 204 Cost Accounting II****3 Credits**

Prerequisites: ACC 203 - Cost Accounting I. Continues Cost Accounting I. Studies the master or comprehensive budget, flexible budgeting and capital budgeting. Emphasizes tools for decision making and analysis. Introduces human resource accounting.

**ACC 205 Seminar in Accounting****1 Credit**

Prerequisites: Program advisor approval. Allows accounting students an opportunity to pursue specific areas of interest at a more advanced level in accounting.

**ACC 206 Managerial Accounting****3 Credits**

Prerequisites: ACC 101 - Principles of Accounting I. Provides an understanding of accounting records and management decision making, with topics including internal accounting records and quantitative business analysis.

**ACC 207 Accounting for Government and Nonprofit Entities****3 Credits**

Prerequisites: ACC 105 - Income Tax I. Continues Income Tax I. Emphasizes the similarities and differences between government, nonprofit and commercial accounting methods and procedures. Exposes students to the basic fund accounting cycle for the general fund and other special funds.

**ACC 208 Income Tax II****3 Credits**

Prerequisites: ACC 105 - Income Tax I. Continues Income Tax I. Studies procedures and problems pertaining to federal and state income tax laws for partnerships and corporations. Includes a review and in-depth study of concepts related to proprietorships covered in Income Tax I.

**ACC 209 Auditing****3 Credits**

Prerequisites: ACC 201 - Intermediate Accounting I. Covers public accounting organization and operation including internal control, internal and external auditing, verification and testing of the balance sheet and operating accounts and the auditor's report of opinion of the financial statements.

**ACC 210 Money and Banking****3 Credits**

Prerequisites: None. Studies monetary and banking theories as they relate to present-day domestic and international problems. Topics include banking operations, price changes, international monetary relationships and application of monetary and fiscal policy.

**ACC 212 Business Finance****3 Credits**

Prerequisites: None. Introduces basic tools and techniques of financial analysis and management and sources of financial and economic theory as applied to business finance. Includes conceptual materials related to valuation, capital structure formulation and risk-return consideration.

**ACC 217 Intermediate Accounting Lab I****1 Credit**

Prerequisites: Enrollment in ACC 201 - Intermediate Accounting I (or) with program Advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in Intermediate Accounting I. Uses computerized problems.

**ACC 218 Intermediate Accounting Lab II****1 Credit**

Prerequisites: Enrollment in ACC 202 - Intermediate Accounting II (or) with program Advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in Intermediate Accounting II. Uses computerized problems.

**ACC 219 Cost Accounting Lab****1 Credit**

Prerequisites: Enrollment in ACC 203 - Cost Accounting I (or) with program Advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in Cost Accounting I. Uses computerized problems.

**ACC 220 Special Applications Lab I****1 Credit**

Prerequisites: Program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in an accounting course. Uses computerized problems.

**ACC 221 Special Applications Lab II****1 Credit**

Prerequisites: Program advisor approval. Presents a series of planned accounting learning problems and activities designed to accompany concepts and theories included in an accounting course. Uses computerized problems.

**ACC 222 Accounting Software Applications****3 Credits**

Prerequisites: ACC 102 - Principles of Accounting II. Solves accounting problems using software similar to what is currently used in business. Includes installation, operation and analysis of an accounting software package.

**ACC 223 Advanced Topics in Accounting****3 Credits**

Prerequisites: Program advisor approval. Discusses topics of current interest in accounting. Focuses on special interest projects for students in accounting. Includes trips, guest speakers, audio-visual activities and seminars.

**ACC 225 Integrated Accounting Software****3 Credits**

Prerequisites: ENG 111 - English Composition, MAT 111 - Intermediate Algebra or equivalent or advisor approval, ACC 201 - Intermediate Accounting I, ACC 203 - Cost Accounting, OAD 218 - Spreadsheets or corequisite with advisor approval. Integrated accounting software package(s) will be used to illustrate computerized accounting practices. The general ledger will be integrated with accounts receivable, accounts payable and other accounting modules.

**ACC 280 Co-op/Internship****1-6 Credits**

Prerequisites: Departmental approval. Provides the opportunity to work at a job site specifically related to a student's career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**ACC 281-294 Special Topics in Accounting****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.

**ACC 298 Field Study/Cooperative Education****3 Credits**

An introductory course intended primarily for students who need only one semester of economics. A survey of microeconomics, macroeconomics, international economics, comparative economic systems, historical development of economic thought. 3 lecture hours.

**AEC 100 Elements of Economics****3 Credits**

Prerequisites: Successful completion of ENG 011 and Mat 009, or recentered SAT Verbal score of (R)420 or greater and SAT Math score of (R)330 or greater, or appropriate placement test scores. A descriptive and analytical study of the market economy, including market structures, pricing, and distribution and determination of wealth and income. 3 lecture hours.

**AEC 201 Microeconomics****3 Credits**

Prerequisite: Successful completion of ENG 011, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. Recommended prerequisite: AEC 201. A descriptive and analytical study of fundamental concepts of our national economy. It includes an analysis of the determination and fluctuations in national income and employment, monetary and fiscal policy, and international trade and finance. Economic analysis of monetary and fiscal policies is stressed. 3 lecture hours.

**AEC202 Macroeconomics****3 Credits**

Prerequisites: None. Examines the history of firefighting, identifies the types of apparatus and fire protection systems and analyzes the fire problem in general. Provides a basis for the chemical and hazardous properties of combustion and the related by-products.

**AFS 101 Fire Technology****3 Credits**

Prerequisites: None. Examines in detail the types of apparatus in use today. Studies pumpers, aerials, elevating platforms and special apparatus. Utilizes National Fire Protection Association standards in identifying the proper responses for a given situation. Includes study of apparatus placement on an emergency incident, types of pumps, tests, equipment, drafting, relay, nozzles, fittings and hose lays and maintenance on various types of apparatus.

**AFS 102 Fire Apparatus and Equipment****3 Credits**

Prerequisites: None. Examines the design principles involved in the protection of a structure from fire involvement. Studies the signs, symptoms and indicators of partial or total building collapse during firefighting operations. Includes the study of legislative codes and laws concerning building design, building fire safety, classification of building construction and blueprint reading.

**AFS 103 Firefighting Strategy and Tactics****3 Credits**

Prerequisites: None. Focuses on the responsibilities of the firefighter, the investigator and the department in fire scene investigations, fire cause and loss, collection and preservation of evidence and determination of fire origin. Emphasizes the application and assistance of various scientific aids that assist in the investigation.

**AFS 104 Building Construction Fire Service****3 Credits**

Prerequisites: None. Focuses on the responsibilities of the firefighter, the investigator and the department in fire scene investigations, fire cause and loss, collection and preservation of evidence and determination of fire origin. Emphasizes the application and assistance of various scientific aids that assist in the investigation.

**AFS 105 Fire/Arson Investigation****3 Credits**

Prerequisites: None. Examines the function of the fire inspector and the organization of the fire prevention unit. Emphasizes identifying codes and regulations utilized by the inspector with particular use of the Indiana Fire Code. Includes the legal authority of fire prevention principles, application of the fire code and sound management principles as applied to a bureau.

**AFS 108 Fire Prevention/Inspection****3 Credits**

Prerequisites: None. Examines the function of the fire inspector and the organization of the fire prevention unit. Emphasizes identifying codes and regulations utilized by the inspector with particular use of the Indiana Fire Code. Includes the legal authority of fire prevention principles, application of the fire code and sound management principles as applied to a bureau.

**AFS 109 Fire Department Specifications****3 Credits**

Prerequisites: None. Examines the function of the fire inspector and the organization of the fire prevention unit. Emphasizes identifying codes and regulations utilized by the inspector with particular use of the Indiana Fire Code. Includes the legal authority of fire prevention principles, application of the fire code and sound management principles as applied to a bureau.

### **AFS 201 Fire Protection Systems**

**3 Credits**

Prerequisites: None. Provides a general introduction to fire alarm monitoring devices and extinguishing systems. Develops a strong base for fire protection or commercial applications. Covers fire extinguishing agents, portable fire extinguishers, carbon dioxide systems, dry chemical systems, halogenated systems/foam systems, explosive suppression systems, thermal/smoke/flame detection systems and building monitoring systems. Covers standpipe and sprinkler systems.

### **AFS 202 Fire Service Management**

**3 Credits**

Prerequisites: None. Studies the principles and functions of administrative and management personnel in the fire service. Topics discussed include departmental organizations, administrative and management procedures, personnel selection, line and staff functions, communications, the fire company unit, public relations and current problems in administration.

### **AFS 204 Fire Service Hydraulics**

**3 Credits**

Prerequisites: None. Studies compressible fluids including fluid properties, principles of fluid statics, flow system principles, pipe friction and head loss, flow measurements, pumps and other appliances and hydraulic devices. Relates applications to fire protection, water supply and foam systems.

### **AHI 125 History of American Technology**

**3 Credits**

Prerequisite: Successful completion of ENG 011, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. This course will examine the technological development of the modern world and especially emphasizes the United States. Emphasis will be given not only to the inventions themselves but the reasons why such technology was needed and what influence the technology has had on our society. Major topics examined will include power sources, railroads, the automobile, ships, aviation, communications and the development of military technology and tactics. 3 lecture hours.

### **AHI 131 Survey of European History I**

**3 Credits**

A survey of European history up to 1600, the development of ancient civilizations, the rise and fall of ancient empires, the origin and growth of the Christian church, politics and civilization of the Middle Ages, the Renaissance and Reformation. 3 lecture hours.

### **AHI 132 Survey of European History II**

**3 Credits**

A survey of European history dealing with Commercial Revolution; absolutism, the Enlightenment; the French Revolution; the industrial developments of the nineteenth and twentieth centuries; politics and wars of the twentieth century; and contemporary economics, social, and cultural change. 3 lecture hours.

### **AHI 139 American History I**

**3 Credits**

Prerequisites: Successful completion of ENG 031 or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. The colonial period; causes and results of the American Revolution; the development of the federal system of government; the growth of democracy; early popular American culture; territorial expansion; slavery and its effects; sectionalism; causes and effects of the Civil War; Reconstruction, political and economic. 3 lecture hours.

### **AHI 140 American History II**

**3 Credits**

Prerequisites: Successful completion of ENG 031 and HEW 009, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. Industrial growth of the nation and its effects, agrarian and urban discontent and attempts at reform, World War I, the Roaring Twenties, social and governmental changes of the thirties, World War II and its consequences, the growth of the federal government, social and political upheaval in the sixties and seventies, and the conservatism of the eighties. 3 lecture hours.

### **AHI 235 World Civilization I**

**3 Credits**

Prerequisites: Successful completion of ENG 032 and HEW 009, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. The development of early civilizations of the Eastern Hemisphere, the civilizations of Greece and Rome, the rise and growth of Christianity and Islam, early Oriental history, medieval Europe, the Renaissance and Reformation, power politics and diplomacy, the expansion of Europe and its effect on various civilizations, scientific and intellectual developments to 1650. 3 lecture hours.

### **AHI 236 World Civilization II**

**3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. Seventeenth Century absolutism, science and economics, the Enlightenment and the French Revolution; Romanticism, the Industrial Revolution; revolutions of the nineteenth century; colonialism and imperialism and their effects on under-developed areas; the prelude to World War I and the war itself; twentieth century world politics and the cold war; independence movements in Africa and Asia; recent social and cultural developments. 3 lecture hours.

### **AMS 100 Basic Auto Care**

**3 Credits**

Provides basic instruction in auto maintenance for the automobile owner. Covers routine maintenance, economical operation, elimination of objectionable noises, care of interior and exterior appearance, warranty regulations and emergency road procedures.

### **AMS 101 Steering and Suspension Systems**

**3 Credits**

This first year, introductory course will study steering and suspension systems commonly used on modern vehicles. Students will study steering and suspension components, power steering units, the principles of four-wheel alignment, tire repair and wheel balancing. The course will emphasize professional methods of diagnosis and repair for related components.

### **AMS 105 Powertrain Service**

**3 Credits**

This introductory course will study driveline theory and in-car service procedures. Theory and overhaul procedures related to the drive shaft and axle assemblies for front and rear wheel drive vehicles are included as well. Removal and installation of manual and automatic drivetrains will be covered.



**AMS 107 Engine Principles and Design****3 Credits**

This introductory course introduces engine dynamics, theory of engine operation and characteristics of engine design. Studies R & R, visual inspection, precision measuring, gaskets, lubricants, sealants, coolants of modern engines and engine service.

**AMS 113 Electrical and Electronics I****3 Credits**

This class introduces the fundamentals of electricity and automotive electronics. Extensive use of digital multimeters and circuit troubleshooting is covered. Emphasis is placed on understanding and utilizing electrical diagrams. Starting and charging systems are presented.

**AMS 119 Engine Design and Performance I****3 Credits**

An introductory course about the systems of an internal combustion engine. The basics of ignition, fuel, emission, and mechanical system operations will be presented. Basic test procedures will be introduced. Basics of computer engine controls will be explained. Basic service and replacement procedures will be covered.

**AMS 121 Braking Systems****3 Credits**

Theory, service and repair of automotive braking systems and their components. Emphasis on hydraulic theory, the repair and service of system components, including anti-lock and traction control systems.

**AMS 123 Electrical and Electronics II****3 Credits**

Prerequisite: AMS 113 Electrical and Electronics I or Advisor Approval. This intermediate course will study common automotive electrical systems. The topics for this course include; function, construction, principles of operation, and troubleshooting techniques for the various automotive electrical and electronic systems. Diagnosis and repair of system circuits and components using proper diagnostic techniques will be emphasized.

**AMS 125 Manual Drivetrains****3 Credits**

This introductory course covers theory, diagnosis, and overhaul procedures related to the manual transmission/transaxle, clutches, transfer cases, and differential assemblies.

**AMS 127 Engine Repair****3 Credits**

Prerequisites: AMS 107 Engine Principles and Design or Advisor approval. This course studies precision tools, equipment, and procedures needed to repair today's modern engine. Repair, proper assembly, and installation techniques applicable to the modern engine are included.

**AMS 135 Automatic Transmission****3 Credits**

Prerequisites: AMS 105 Powertrain Service or Advisor Approval. This intermediate course studies automatic transmission theory of operation, diagnosis and testing, and rebuilding procedures. Theory and diagnosis of computer-controlled transmissions will also be covered.

**AMS 201 Climate Control Systems****3 Credits**

Prerequisites: AMS 113 Electrical/Electronics I or Advisor Approval. This course covers air conditioning and heating systems used on modern vehicles. Emphasis is given to the operation and theory of the air conditioning and its components. Vacuum and electronic control circuits are included. Federal regulations for handling and recycling of all refrigerants will be stressed.

**AMS 209 Engine Performance II****3 Credits**

Prerequisites: AMS 107 Engine Principles and Design, AMS 109 Engine Performance I or Advisor Approval. This course covers the diagnosis and repair of ignition, fuel, emission, and computer systems. Extensive coverage of manufacturer specific computer engine control and fuel injection systems. Topics will include OBD I OBD II, future on-board diagnostic systems.

**AMS 219 Engine Performance III****3 Credits**

Prerequisites: AMS 209 Engine Performance II or Advisor Approval. This advanced course covers the diagnosis and repair of ignition, fuel, emission, and computer systems. Advanced coverage of manufacturer specific computer engine control and fuel injection systems will be stressed. Federal and state emission requirements will be covered with a focus on 5-gas exhaust analysis. Alternative fuel technology will also be covered.

**AMS 229 Driveability Diagnosis****3 Credits**

Prerequisites: AMS 123 Electrical/Electronics II, AMS 219 Engine Performance III or Advisor Approval. This advanced course is designed to develop a student's ability to diagnose and repair complex driveability concerns. Emphasis will be placed on following systematic diagnostic procedures. Students will utilize the advanced capabilities of diagnostic equipment provided.

**AMS 243 Electrical and Electronics III****3 Credits**

Prerequisites: AMS 123 Electrical/Electronics II, (to be completed within the last 12 credit hours of the AAS. This course presents advanced theory and diagnosis of automotive electronic systems. It examines all major vehicle computer systems with an emphasis on the diagnosis, testing, and repair of these systems. This course uses lab scopes, scan tools, and graphing multimeters.

**AMS 280 CO-OP or Internship****3 Credits**

Prerequisites: Approval of Program Chairperson. This course will give qualifying students an opportunity to work at a job site that is specifically related to their career objective. This class will provide on-the-job experience while earning credit toward an associate degree.

**AMS 299 ASE Certification Review****3 Credits**

Prerequisites: Permission of Advisor. A course to prepare the professional automotive technician to attempt the National Institute for Automotive Service Excellence certification tests. All eight areas of testing will be reviewed and sample certification tests given. Lectures will stress theory of operation and diagnostic logic. Labs will stress professional repair and testing techniques.

**ANP 101 Anatomy and Physiology I****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 044 - Mathematics. Develops a comprehensive understanding of the close inter-relationship between anatomy and physiology as seen in the human organism. Introduces students to the cell, which is the basic structural and functional unit of all organisms, and covers tissues, integument, skeleton, muscular and nervous systems as an integrated unit.

**ANP 102 Anatomy and Physiology II****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Continues the study of the inter-relationships of the systems of the human body.

**ANP 201 Advanced Human Physiology****4 Credits**

Prerequisites: ANP 102 - Anatomy and Physiology II. Provides advanced study of human physiology. Emphasizes the study of the function of the nervous, muscular, circulatory, respiratory, urinary, digestive and endocrine systems, and their homeostatic mechanisms and system interaction. Focuses laboratory exercises on clinically relevant measurement of human function.

**ANP 203 Human Anatomy and Physiology I****5 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 044 - Mathematics. Provides a comprehensive study of the interrelationship between anatomy and physiology from chemical to cellular to organ interactions. Provides an in-depth study of each system of the body from a viewpoint of structure as well as function.

**ANP 204 Human Anatomy and Physiology II****5 Credits**

Prerequisites: ANP 203 - Human Anatomy and Physiology I. Provides the remaining comprehensive study of the interrelationship between anatomy and physiology from chemical to cellular to organ interactions. Provides an in-depth study of each system of the body from a viewpoint of structure as well as function.

**APO 111 American National Government****3 Credits**

A study of federalism, theories of the origins and purposes of government and other aspects of the central government, including pressure groups, political parties, and the electoral process. Emphasis is also placed on constitutional backgrounds and the organization and functions of the executive, legislative, and judicial segments of the national government. 3 lecture hours.

**APO 112 State and Local Government****3 Credits**

Prerequisites: Successful completion of ENG 031 and HEW 009, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. A study of the basic organization and historical developments of the states, cities, counties, townships, and special districts. Special emphasis is given to the federal relationships of the states with the central government and the struggle over states' rights. Also emphasized are the problems facing state and local governments in the fields of urban renewal, crime, transportation, finance, education, and governmental reform. 3 lecture hours.

**APO 211 Introduction to World Politics****3 Credits**

Prerequisites: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores, and successful completion of APO 201, or permission of the instructor. This course is designed as a capstone course for all Pre-Law majors as a requirement for graduation. The course evaluates the growth of modern nation-states, the causes of conflict and war between nations, the impact of war and peace on modern political ideologies, and the economic and social consequences of political action. Emphasis will be placed on a study of current events in a global comparative perspective. The course will emphasize critical thinking and comparative analysis through essay and research paper evaluations built into the course format. 3 lecture hours.

**APO 220 Public Administration****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. This course is designed to examine the structure and function of the bureaucratic arm of the executive branch of government. Special emphasis will be placed on the internal workings of government agencies of administration on the local, state, and national level. Considerable attention will be paid to the power exerted through these agencies. 3 lecture hours.

**APS 142 General Psychology****3 Credits**

Prerequisites: Successful completion of ENG 031, HEW 009, and MAT 009, or recentered SAT Verbal score of (R)370 or greater and SAT Math score of (R)330 or greater, or appropriate placement test scores. Provides a general survey of the science of Psychology. It includes the study of research methods, biological foundations, learning processes, human development, personality and abnormal psychology. 3 lecture hours.

**APS 201 Developmental Psychology****3 Credits**

Prerequisite: A grade of C or better in APS 142. This course covers human growth and development throughout the life span. Physical, psychosocial, and cognitive influences will be examined from conception to death. 3 lecture hours.

**APS 240 Human Sexuality****3 Credits**

Prerequisites: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores, and PSYC 142. This course offers a perspective on the physiological, psychological, and sociological nature to the human sexual response. It provides an overview of research in the field, methods of treatment and therapy for sexual problems, and a format for discussion of societal issues concerning sexual conduct. 3 lecture hours.

- APS 242 Educational Psychology** **3 Credits**  
 Prerequisite: APS 142. Presents psychological variables in learning, devoting time to factors that affect the quality and direction of teaching. Students consider four broad areas: the teacher--his/her preparation, goals, uses of psychology, classroom responsibilities; the students--how their growth affects learning and adjustment; the classroom and other learning situations; and procedures for directing classroom activities. An optional lab is offered with this course. 3 lecture hours.
- APS 249 Abnormal Psychology/W/S** **3 Credits**  
 Prerequisites: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores, and a grade of C or better in APS 142. Examines theories and research related to mental illness as well as etiology and treatment methods. 3 lecture hours.
- APS 280 Health Psychology** **3 Credits**  
 An introduction to the field of health psychology with emphasis on how the mind-body interaction influences health and health related behaviors. The course uses the biopsychosocial model to study major illnesses, health enhancing and health damaging behaviors, and alternative "holistic" modalities for treatment. Focus is on the use of psychological principles to enhance health, prevent disease, identify risk factors, and shape public opinion. Students explore their own health and health practices as an approach to understanding health dynamics. 3 lecture hours.
- APS 291 Introduction to Exceptionalities** **3 Credits**  
 An overview of some special needs of individuals with unusual capabilities or handicaps. Ways to help individuals achieve more fully their unique potential will be considered. Causes of handicaps and appropriate preventive measures will be included. 3 lecture hours.
- ARH 102 Survey of Art and Culture II** **3 Credits**  
 Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Surveys painting, sculpture and architectural styles from the Renaissance through the 20th Century. Emphasizes developing analytical skills.
- ART 111 Drawing for Visualization** **3 Credits**  
 Prerequisites: None. Introduces students to the tools and methods of drawing. Presents drawing as a catalyst to seeing and a way of recording ideas. Gives students the necessary drawing preparation for the study of graphic design.
- ART 112 Electronic Layout** **3 Credits**  
 Prerequisites: None. Deals with advanced issues of designing for communication. Develops creative problem solving skills. Uses the computer as a tool for executing layouts for client approval. Produces practical samples for student portfolios.
- ART 114 Graphic Design** **3 Credits**  
 Prerequisites: VIS 101 - Fundamentals of Design. Corequisites: ART 115 - Typography. Introduces design for communication. Teaches the steps in design development and the difference between message and concept. Produces samples for student portfolios.
- ART 115 Typography** **3 Credits**  
 Prerequisites: None. Addresses the issues pertinent to the proper and creative use of type and the enhancement of communication. Covers the history of type, typographic terminology, design, copyfitting attention to aesthetics, common sense and how we read.
- ART 116 Electronic Illustration** **3 Credits**  
 Prerequisites: None. Provides instruction in illustration techniques using computer software designed for creating illustrations, technical drawings, logos, packaging, maps, charts and graphs. Emphasis is on preparing effective, creative illustrations for various media applications in an efficient, productive manner.
- ART 117 Production** **3 Credits**  
 Prerequisites: Advisor approval. Focuses on the hand assembly of art and type for the printer's camera. Covers production terminology, printing process, hand preparation of illustrative materials for reproduction and preparation of mechanical art using hand skills. Produces samples for student portfolios.
- ART 202 Special Projects I** **3 Credits**  
 Prerequisites: None. Accommodates student interest in specific areas or in areas where there is a need to strengthen skills. Requires performance and completed work to be portfolio quality and reflect applicability to the main areas of the program.
- ART 203 Independent Study I** **3 Credits**  
 Prerequisites: None. Provides students with opportunities to design projects for specific areas of interest. Requires the project plan to be approved by the instructor. Restricts work to student program area and requires it to be portfolio quality.
- ART 205 Special Projects II** **3 Credits**  
 Prerequisites: None. Provides specific experience in selected areas. Recommends completion of two projects. Requires instructor approval for additional projects.
- ART 206 Independent Study II** **3 Credits**  
 Prerequisites: None. Builds skills in specific areas of a visual communications program or a related program such as marketing, advertising, and externship or supervision. Requires instructor approval for program projects. Requires program chairperson's approval to elect non-program coursework.



**ART 210 Illustration Techniques I****3 Credits**

Prerequisites: None. Develops dexterity in the application of transparent and opaque media.

**ART 217 Graphic Design II** 3 Credits Prerequisites: ART 112 - Electronic Layout. Provides experience with advanced design projects which communicate a common theme through several different media. Provides opportunity for students to work in a team environment.

**ART 218 Digital Production****3 Credits**

Prerequisites: None. Addresses issues of preparing camera-ready art electronically. Topics covered are preparing computer files for service bureau output, scanning and printing resolution, color matching and color models, trapping, and computer system operations and troubleshooting.

**ASO 154 Cultural Anthropology****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 044 - Mathematics. Surveys the variety of social and cultural developments within the human family. Various cultural types and major societal structures such as kinship terminology, patterns of production and consumption and social institutions will be dealt with in a variety of cultural settings.

**ASO 245 Cultural Diversity****3 Credits**

Prerequisites: HEW 101 - English Composition and ASO 151 - Introduction to Sociology. Provides students with an opportunity to explore their own ethnic roots. Increases understanding of the main ethnic groups in the United States: Appalachians, Native Americans, Afro Americans, Asian Americans, Pacific Islanders and Hispanics. The social and religious impact on the cultural integration of these groups will be introduced. Discussions on how these aspects of the United States culture may affect international dialogues will also be included.

**ASO 252 Social Problems****3 Credits**

Prerequisites: ASO 151 - Introduction to Sociology. Introduces some of the more complex and important problem areas in the American social context and includes a presentation of contemporary thinking relative to the identification, analysis and alleviation of these problems.

**ASO 253 Introduction to Social Psychology****3 Credits**

Prerequisites: ASO 151 - Introduction to Sociology and APS 142 - Introduction to Psychology. Studies human behavior in social situations. Processes of communication, socialization, social role, social self and social groupings are emphasized.

**ASO 261 Sociology of Relationships and Families****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 044 - Mathematics. Examines the sociological and psychological dynamics of dating, relationships, marriage, family life and parenting. Emphasis will be placed on how our contemporary society and culture is affecting these institutions and customs. The course will also explore the impact of divorce and stepfamilies on today's lifestyles.

**ASO 151 Principles of Sociology****3 Credits**

Prerequisite: Successful completion of ENG 031, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. Presents students with generalized information about the various social processes that function in society, various analytical tools, and techniques of applying this information to everyday living. 3 lecture hours.

**ASO 154 Cultural Anthropology****3 Credits**

This is a survey of the variety of social and cultural developments within the human family. Various cultural types and major societal structures such as kinship terminology, patterns of production and consumption, and social institutions will be dealt with in a variety of cultural settings. 3 lecture hours.

**ASO 164 Introduction to Multicultural Studies****3 Credits**

This is an introductory course in the multicultural composition of the United States. The impact of and interaction between social institutions including the family, education, religion, economics, and government will receive attention. The development of prejudice and discrimination will be explored. Particular focus will be shown to cultural groups based on ethnicity and color. This course will prepare students to understand, appreciate, and work effectively with people who are different from themselves. It will also help students to value the multiple cultures from which they have come. 3 lecture hours.

**ASO 245 Cultural Diversity****3 Credits**

Prerequisites: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores, and ASO 151 and HEW 101 or permission of the instructors. This course will provide students with an opportunity to explore their own ethnic roots. In addition, it will increase their understanding of the main ethnic groups in the United States: Appalachians, Native Americans, Afro-Americans, Asian-Americans, Pacific Islanders, and Hispanics. The social and religious impact on the cultural integration of these groups will be introduced. Discussions on how these aspects of United States culture may affect international dialogues will also be included. 3 class hours.

**ASO 252 Social Problems****3 Credits**

Prerequisite: ASO 151. This course has as its primary aim the introduction of some of the more complex and important problem areas in the American social context and includes a presentation of contemporary thinking relative to the identification, analysis, and alleviation of these problems. 3 lecture hours.

**ASO 253 Introduction to Social Psychology****3 Credits**

Prerequisites: APO 142, ASO 151. A study of human behavior in social situations. Processes of communication, socialization, social role, social self and social groupings are emphasized. 3 lecture hours.

**ASO 254 Introduction to Archaeology****3 Credits**

An exploration of archaeological sequences from beginnings of settled life to complex civilization. Particular attention is directed toward developmental sequences and ecological adaptations. The course will also consider the pre-European societies of Indiana and adjacent areas against the backdrop of the archaeological and paleological records of the eastern United States. 3 lecture hours.

**ASO 261 Sociology of Relationships and Families****3 Credits**

This course is designed to examine the sociological and psychological dynamics of dating, relationships, marriage, family life and parenting. Emphasis will be placed on how our contemporary society and culture is affecting these institutions and customs. The course will also explore the impact of divorce and stepfamilies on today's lifestyles. 3 lecture hours.

**BIO 101 Introductory Biology****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 044 - Mathematics. Introduces the basic concepts of life. Includes discussion of cellular and organismal biology, genetics, evolution, ecology and interaction among all living organisms. Addresses applications of biology to society.

**BIO 211 General Microbiology****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 044 - Mathematics. Presents an overview of microbiology which includes fundamentals, methods and materials. Introduces industrial and clinical microbiology, and special topics.

**BIO 212 General Microbiology II****2 Credits**

Prerequisites: BIO 211 - General Microbiology and ANP 101 - Anatomy and Physiology I. Presents a secondary study of bacteria, viruses, fungi, rickettsia and parasites. Emphasizes the study of bacterial growth and control demonstrated by serological techniques.

**BIO 065 Basic Life Sciences****3 Credits**

Prerequisites: Success completion of ENG 031 - Reading Strategies for College I, and MAT 044 - Mathematics or demonstrated competency on reading section (ASSET 37+, COMPASS 66+) and mathematics section (ASSET 41+, COMPASS 44-100) of the assessment. Introduces the scientific method and basic concepts and terminology used in biology, microbiology, anatomy, physiology and organic chemistry which are related to life sciences. Prepares entering students who took no high school science or who took science several years ago for general education life sciences courses.

**BUS 101 Introduction to Business****3 Credits**

Prerequisites: None. Examines the U.S. business system in relation to the nation's economy. Studies business ownership, organization principles and problems, management, and administration and development practices of American business enterprises.

**BUS 102 Business Law****3 Credits**

Prerequisites: None. Describes the judicial system and the nature and sources of law affecting business. Studies contracts, sales and negotiable instruments with emphasis on Uniform Commercial Code applications. Includes appropriate remedies for breach of contract and tort liabilities. Examines business structures and agencies.

**BUS 103 Office Administration****3 Credits**

Prerequisites: None. Covers broad areas of administrative office services and management, including office organization, site location, layout and environment, records management, systems controls, and office communication services and devices.

**BUS 104 Investment****3 Credits**

Prerequisites: None. Presents the basis of investing, with attention to the various ways in which investment vehicles operate.

**BUS 105 Principles of Management****3 Credits**

Prerequisites: None. Describes the functions of managers, including the management of activities and personnel. Focuses on application of guidance principles in management.

**BUS 108 Personal Finance****3 Credits**

Prerequisites: None. Emphasizes management of individual financial resources for growth and maintenance of personal wealth. Covers home buying and mortgage financing, installment financing, life and health insurance, securities, commodities and other investment opportunities.

**BUS 110 Business Statistics****3 Credits**

Prerequisites: MAT 111 - Intermediate Algebra. Introduces students to the theory and applications of statistical inferential techniques as applied to business problems. The student is exposed to a software package to illustrate the extent that the computer has facilitated quantitative research.

**BUS 202 Human Resource Management****3 Credits**

Prerequisites: BUS 105 - Principles of Management. Focuses on the activities of human resource management, with emphasis on employer-employee relations, job analysis and evaluation, salary administration, work measurement and standards, performance appraisal and legal compliance.

**BUS 203 Business Development****3 Credits**

Prerequisites: 45 credit hours and/or departmental approval. Explores business operations for the self-employed or as a manager of a small business enterprise. Covers the role of entrepreneur and manager; selecting the appropriate business organization; developing plans and strategies for small, medium, and growing firms; securing financing for start-up and growing operations; exploring growth opportunities and successfully managing human and material resources.

**BUS 204 Case Problems in Business****3 Credits**

Prerequisites: 45 program credit hours to include ENG 111 - English Composition and MAT 111 - Intermediate Algebra or MAT 112 - Functional Mathematics and departmental approval. Applies business concepts and principles to specific case studies or problems.

**BUS 205 Risk Management****3 Credits**

Prerequisites: None. Examines risks faced by business firms and considers ways of handling them. Covers property, liability and personal losses, with attention to insurance contracts and their uses. Studies individual life, health and pension insurance, public policy, government regulations and social insurance programs.

**BUS 207 Introduction to International Business****3 Credits**

Prerequisites: BUS 101 - Introduction to Business and/or departmental approval. Provides an overview of the international environment within which business operates today. Demonstrates the global relationships between business activities and how events in one part of the world can influence business decisions and activities in other parts of the world.

**BUS 208 Organizational Behavior****3 Credits**

Prerequisites: BUS 105 - Principles of Management. Studies human behavior in organizations at the individual and group level, including the effect of organizational structure on behavior. Focuses on using organizational behavior concepts for developing and improving interpersonal skills.

**BUS 209 Introduction to eBusiness****3 Credits**

Prerequisites: None. Focuses on how eBusiness is being conducted and managed and its major opportunities, limitations, issues and risks. Applications to be discussed include those of business-to-consumers, business-to-business and intrabusiness. Because eBusiness is interdisciplinary, subject matter will be directed at managers, professionals and students who wish an overview of the eBusiness potential.

**BUS 210 Managerial Finance****3 Credits**

Prerequisites: MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra, and ACC 101 - Principles of Accounting I. Improves decision making skills related to the financial resources of a firm. Includes techniques of financial analysis, time value of money, capital budgeting, and risk.

**BUS 220 Conference Leadership Training****3 Credits**

Prerequisites: None. Stresses the importance of the conference in business and industry. Emphasizes the practical application of the various techniques of conference leadership and an understanding of group dynamics in the conference setting.

**BUS 221 Principles of Employment****3 Credits**

Corequisites: BUS 202 - Human Resource Management. Provides an in-depth look at the employment process. Emphasizes the role of recruiting, selecting and training of employees. Studies in detail techniques in job analysis, behavioral interviewing and on-the-job training.

**BUS 222 Benefits Administration****3 Credits**

Corequisites: BUS 202 - Human Resource Management. Provides an in-depth look at benefits administration. Topics include vacations, holiday pay, insurance, retirement programs and other employee inducements. Emphasizes cost of benefits in relationship to the overall compensation package. Looks at the relevance of reward, recognition and pay structures.

**BUS 223 Occupational Safety and Health****3 Credits**

Prerequisites: None. Emphasizes the importance of safety and health in the workplace. Examines the Occupational Safety and Health Act of 1970 in depth with relationship to businesses and their employees. Places emphasis on effective practices, costs, labor and management responsibilities, health hazards, alcohol and drug abuse, worker's compensation, physical conditions and training.

**BUS 280 Co-op/Internship****1-6 Credits**

Prerequisites: Departmental approval. Gives students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**BUS 281-294 Special Topics in Business Administration****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more

**CHM 101 Chemistry I****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 111 - Intermediate Algebra. Includes the science of chemistry and measurement, atomic theory and the periodic table, chemical bonding, stoichiometry and gases.

**CHM 102 Chemistry II****3 Credits**

Prerequisites: CHM 101 - Chemistry I. Includes liquids and solids, solutions and solution concentrations, acids and bases, equilibrium, nuclear chemistry, and organic and biochemistry.

**CHM 061 Basic Chemistry****3 Credits**

Prerequisites: Successful completion of ENG 032 - Reading Strategies for College II and MAT 050 - Basic Algebra, or demonstrated competency in the reading section (ASSET 41+, COMPASS 80-100) and the algebra section (ASSET 40-55, COMPASS 41-100) of the assessment. Provides students with an introduction to chemistry basics. Provides instruction for students with little or no recent chemistry background, especially those desiring to continue in more advanced chemistry courses or other science courses.



**CIS 100 Using Windows Environment****1 Credit**

Prerequisites: None. Introduces the basic concepts of Windows and Windows-based applications. The student will acquire the necessary concepts for accomplishing the most common tasks such as creating folders, copying, deleting and moving files from one folder to another or from a folder to an auxiliary storage medium. The student will also be introduced to such Windows applets as the NotePad and Accessories. Simple word processing, database, spreadsheet and communications programs will be introduced.

**CIS 101 Introduction to Microcomputers****3 Credits**

Prerequisites: ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competencies, or advisor approval. Coquisites: Keyboarding at a rate of 25 GWAM with three-minute timing and no more than three errors, or advisor approval. Introduces the physical components and operations of microcomputers. Focuses on computer literacy and provides hands-on training in three areas of microcomputer application software: word processing, electronic spreadsheets and database management. Use of a professional business integrated applications package is emphasized.

**CIS 102 Information Systems Fundamentals****3 Credits**

Prerequisites: ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II, or demonstrated competencies or advisor approval. Introduces information processing and programming with emphasis on hands-on computer experience. Examines the role of information processing in an organization, including information processing applications, computer hardware and software, internal data representation, stored program concepts, systems and programming design, flowcharting and data communications. Reviews the history of computers, related computer careers, the social impact of computers and computer security.

**CIS 104 Introduction to COBOL Programming****3 Credits**

Coerequisites: CIS 113 - Logic, Design, and Programming. Provides an introduction to COBOL (Common Business Oriented Language) with major emphasis on developing structured programming skills. Develops proficiency in applying the programming development cycle to elementary business problems.

**CIS 105 Operating Systems****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Studies computer operating systems, purposes, structure, and various functions. Provides general understanding of how comprehensive sets of language translators and service programs, operating under supervisory coordination of an integrated control program, form the total operating systems of a computer.

**CIS 106 Microcomputer Operating System****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or CIS 102 - Information Systems Fundamentals. Introduces the organization, structure and functions of an operating system for a microcomputer. Presents the student with operating system concepts such as commands, error messages, interrupts, function calls, device drivers, structure, files and organization. Incorporates concepts into practical applications.

**CIS 107 Microcomputer Programming****3 Credits**

Prerequisites: CIS 102 - Information Systems Fundamentals and CIS 113 - Logic, Design, and Programming. Introduces a structured microcomputer language. Concepts in input/output commands, arithmetic expressions, conditional control, iteration techniques and subroutines will be stressed. Concepts will be incorporated into the application of solving business problems.

**CIS 108 Practical Computer Operations****3 Credits**

Prerequisites: None. Demonstrates workstation and minicomputer operations including peripheral devices. Provides information on data processing area including job responsibilities, standards and run manuals, message control functions, documentation and back-up procedures.

**CIS 109 UNIX Operating Systems****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or CIS 106 - Microcomputer Operating Systems or advisor approval. Studies the UNIX V operating system and its use as a time-sharing operating system. Includes basic UNIX commands, use of the visual editor, the UNIX directory structure and file management with SHELL commands. Offers opportunities to apply skills and knowledge in a laboratory environment.

**CIS 110 Basic Programming Language****3 Credits**

Coquisites: CIS 113 - Logic, Design and Programming. Introduces concepts of program design and programming using the BASIC programming language, the primary language for use with microcomputers. Includes overview of basic arithmetic operations, accumulating and printing totals, comparing, array processing, and interactive programming. Offers students an opportunity to apply skills in a laboratory environment.

**CIS 113 Logic, Design and Programming****3 Credits**

Coquisites: ENG 025 - Introduction to College Writing II, ENG 032 - Reading Strategies for College II or demonstrated competencies, CIS 101 - Introduction to Microcomputers or CIS 102 - Information Systems Fundamentals or advisor approval. Introduces the structured techniques necessary for efficient solution of business-related computer programming logic problems and coding solutions into a high-level language. Includes program flowcharting, pseudocoding, and hierarchy charts as a means of solving these problems. Covers creating file layouts, print charts, program narratives, user documentation and system flowcharts for business problems. Reviews algorithm development, flowcharting, input/output techniques, looping, modules, selection structures, file handling and control breaks. Offers students an opportunity to apply skills in a laboratory environment.

**CIS 114 Principles of Management Information Systems****3 Credits**

Prerequisites: CIS 102 - Information Systems Fundamentals. Coquisites: BUS 101 - Introduction to Business. Examines the functions and operations required to manage information for business decisions. Focuses on the use of various information technologies and tools that support transaction processing, decision-making, and strategic planning. The diverse information needs of different organizations within a business will be used as examples of practical application of MIS technology.

### **CIS 116 Introduction to Java Programming**

**3 Credits**

Prerequisites: None, but prefer CIS 113 - Logic, Design, and Programming, a Windows-based class and Internet experience. This course provides a basic understanding of the fundamental concepts involved when using a member of a Java programming development language. The emphasis is on logical program design using a modular approach involving task oriented program functions. Java allows the design of an Internet user interface. The application is built by selecting forms and controls, assigning properties, and writing code.

### **CIS 120 Programming I**

**3 Credits**

Corequisites: CIS 113 - Logic, Design, and Programming or advisor approval. Provides an introduction to business programming with the major emphasis on developing structured programming skills. Students will develop proficiency in applying the programming development cycle to elementary business problems.

### **CIS 201 Database Design and Management**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or CIS 102 - Information Systems Fundamentals. Introduces program applications in a database environment and includes discussion of data structures; indexed and direct file organizations; data models including hierarchical, network and relational; storage devices, data administration and analysis; design and implementation. Allows students to use database software in creating, modifying, retrieving and reporting from databases. Develops business application using a database language.

### **CIS 202 Data Communications**

**3 Credits**

Prerequisites: CIS 102 - Information Systems Fundamentals. Introduces concepts of data communications for computer programming students to build a foundation of knowledge upon which to add new technologies.

### **CIS 203 Systems Analysis and Design**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers plus a minimum of 12 CIS credits successfully completed. Provides instruction for creating or modifying a system by gathering details, analyzing data, designing systems to provide solutions, and implementing and maintaining the systems.

### **CIS 204 Advanced COBOL Programming**

**3 Credits**

Prerequisites: CIS 104 - Introduction to COBOL Programming. Continues topics introduced in CIS 104 - Introduction to COBOL Programming with more logically complex business problems. Develops a higher level of COBOL proficiency as well as greater familiarity with debugging techniques. Uses the structured approach through class instruction and laboratory experience.

### **CIS 206 Project Development with High-Level Tools**

**3 Credits**

Corequisites: CIS 201 - Database Design and Management or CIS 203 - Systems Analysis and Design. Analyzes established and evolving methodologies for the development of business-oriented computer information systems. Develops competencies in techniques that apply modern software tools to generate applications directly, without requiring detailed and highly technical program writing efforts.

### **CIS 207 Microcomputer Database Management Systems**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Presents an overview of relational, hierarchical and network database models with emphasis on microcomputer relational database management systems (DBMS). Provides practical experience in using database software to create, modify, retrieve and report. Develops business applications using the database language.

### **CIS 209 Computer Business Applications**

**3 Credits**

Prerequisites: CIS 201 - Database Design and Management, COM 101 - Fundamentals of Public Speaking or COM 102 - Introduction to Interpersonal Communication. Corequisites: CIS 203 - Systems Analysis and Design. Requires students to apply business, microcomputer, and communication skills within business applications. Emphasizes application of several forms of computerized information processing including data processing, word processing, spreadsheets, graphics, and communications. Analyzes the effects of automation on the office worker, management, and the work environment and requires written and oral presentations.

### **CIS 210 COBOL III**

**3 Credits**

Prerequisites: CIS 204 - Advanced COBOL Programming. Emphasizes file handling techniques on tape and direct access devices and the use of libraries via the COBOL, CALL and COPY verbs. Introduces variant forms of the structured approach and unstructured concepts such as the GO TO verb. Helps students develop good programming practices and an entry-level COBOL competency.

### **CIS 211 RPG Programming Fundamentals**

**3 Credits**

Prerequisites: CIS 102 - Information Processing Fundamentals and CIS 113 - Logic, Design, and Programming. Provides a general introduction to the RPG programming language with emphasis on hands-on programming experience. Presents the most important features of the RPG language from input/output processing to applications requiring handling. Introduces language concepts in class lecture. Includes programming lab assignments.

### **CIS 212 "C"/"C++" Programming**

**3 Credits**

Prerequisites: CIS 113 - Logic, Design, and Programming or advisor approval. Provides a basic understanding of the fundamental concepts involved when using a low development language. Emphasizes one logical program design using a modular approach involving task-oriented program functions. Discusses the role of data types, storage classes, and addressable memory locations.

### **CIS 213 Assembler Language Program**

**3 Credits**

Prerequisites: CIS 102 - Information Processing Fundamentals and CIS 113 - Logic, Design, and Programming. Gives students a basic understanding of the assembler process using IBM mainframe computers. Stresses the importance of byte-wise manipulation of data fields when using low-level languages. Emphasizes the actual workings of a computer during the execution of a computer program. Discusses the role of data types, EBCDIC format of data storage, and addressable memory locations.



**CIS 214 Pascal Programming****3 Credits**

Prerequisites: None. Provides a basic understanding of the structured programming process necessary for successful Pascal programming. Emphasizes top-down program design and modularity, using Pascal procedures, functions, and independent subprograms. Discusses simple and advanced data types and program control aids, algorithm development, and program debugging. Provides students with a fundamental understanding of good programming technique and a basic knowledge of Pascal syntax and structure.

**CIS 215 Field Study****4 Credits**

Prerequisites: Completion of a minimum of 30 program credits with 15 in CIS courses. Provides opportunity for a field project or research case study within the computer technology field. Includes collection and analysis of data and/or actual work experience in business or industry.

**CIS 216 Advanced RPG Programming****3 Credits**

Prerequisites: CIS 211 - RPG Programming Fundamentals. Offers advanced study in the use of the RPG compiler language in solving business problems. Focuses on file processing methods and a working knowledge of advanced features and techniques through laboratory experience.

**CIS 217 Programming II****3 Credits**

Corequisites: CIS 113 - Logic, Design, and Programming or advisor approval. Provides a basic understanding of the fundamental concepts involved when using a development language. The emphasis is on program design using a modular approach involving risk oriented program functions. The role of data types, storage classes, and addressable memory locations is thoroughly discussed.

**CIS 220 Shell Command Language****3 Credits**

Prerequisites: None. Teaches students how to write, test and debug shell procedures on a computer utilizing a UNIX operating system. Presents the shell and how it works, shell processes, variables, keyword and positional parameters, control constructs, special substitutions, pipelines, debugging aids, error/interrupt processing and shell command line. Offers students the opportunity to apply skills in a laboratory environment.

**CIS 221 Advanced "C"/"C++" Programming****3 Credits**

Prerequisites: CIS 212 - "C"/"C++" Programming. Continues those topics introduced in "C" Language Programming with emphasis on array processing, file processing and advanced debugging techniques. Provides the opportunity to apply skills in a laboratory environment. This class will also introduce the concept of object oriented programming using the C++ computer language. Differences between C++ and classical C programming will be addressed.

**CIS 223 Integrated Business Software****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or program advisor approval. Presents knowledge of integrated microcomputer software concepts. Students design a complete business system utilizing all parts of an integrated microcomputer software package which can share the same data and manipulate it. Includes use of word processing, electronic spreadsheets, graphics, databases and command languages.

**CIS 224 Hardware and Software Troubleshooting****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems. Presents an in-depth analysis of the components of a computer system and their relationship to each other. Includes concepts of parallel and serial connectivity, installation and maintenance of software, peripheral devices, interface cards and device drivers. Analyzes realistic hardware/software problems encountered in the workplace and techniques and procedures used to implement solutions.

**CIS 225 Advanced Database Management Systems****3 Credits**

Prerequisites: CIS 201 - Database Design and Management or CIS 207 - Microcomputer Database Management Systems. Continues CIS 207 Microcomputer Database Management Systems. Emphasizes the development of advanced applications in database management.

**CIS 227 Topics in Information Management****3 Credits**

Prerequisites: CIS 102 - Information Systems Fundamentals. Discusses topics of current interest in information management. Includes examples from production, operations, accounting, finance, marketing, sales and human resources. Focuses on special interest projects. Utilizes field trips, guest speakers, audio-visual activities and seminars.

**CIS 228 Cooperative Education****1-9 Credits**

Prerequisites: Have completed 50% of required major course credits, with at least a 2.5 average in the occupational field of study, as well as a 2.5 overall scholastic average. Provides students with the opportunity to apply concepts learned in the classroom to actual work situations. Requires program Advisor approval.

**CIS 229 Seminar I****1 Credit**

Prerequisites: Program advisor approval. Discusses topics of current interest in computerized information management with an emphasis on the application of information management skills during lab time. Various seminar topics may be identified and offered each term under this course number.

**CIS 230 Seminar II****2 Credits**

Prerequisites: Program advisor approval. Discusses topics of current interest in computerized information management with emphasis on application of information management skills during lab time. Identifies and offers various seminar topics each term under this course number.

**CIS 231 Structured Query Language****3 Credits**

Prerequisites: CIS 201 - Database Design and Management. SQL is now a dominant language used in mainframe, mini, and microcomputer databases (Access, dBASE, paradox, DB2, FoxPro, Oracle, SQL Server, and Btrieve) by diverse groups such as home computer owners, small businesses, large organizations and programmers. It acts as a bridge between the user, the database management system, the data tables and transactions involving all three.

**CIS 232 Visual Basic Programming****3 Credits**

Prerequisites: CIS 113 - Logic, Design, and Programming and previous experience with Windows-based software. Provides a basic understanding of fundamental concepts involved when using a member of a Windows programming development language. Emphasizes logical program design using a modular approach involving task-oriented program functions. Allows the design of a Windows user interface.

**CIS 232 Visual Basic Programming****3 Credits**

Prerequisites: CIS 113 - Logic, Design, and Programming and previous experience with Windows-based software. Provides a basic understanding of fundamental concepts involved when using a member of a Windows programming development language. Emphasizes logical program design using a modular approach involving task-oriented program functions. Allows the design of a Windows user interface.

**CIS 233 Graphic User Interfaces: Windows****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Provides a foundation of fundamental concepts in the use of Windows-type software. Explores the Windows operating system, accessories and various applications. Develops a proficiency with Windows operations including customizing the environment, integrating applications and managing files.

**CIS 235 Network Fundamentals****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating System and Windows-based training is recommended. Corequisites: CIS 202 - Data Communications. Studies local area networks, their topologies and functions. Provides a general understanding of the basic LAN protocols. Covers utilization of application software using a local area network to share resources among network members, transferring files between users, set-up and administration of a network, identification of hardware and software needs and LAN-to-mainframe connectivity.

**CIS 240 A+ Certification I****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or CIS 102 - Information Systems Fundamentals or program chair approval. Consists of the first of two courses required to train for the A+ certification program. Presents microcomputer knowledge and skills in detail. Presents an in-depth study of the components of a computer system and their relationships to each other. Includes all the concepts required to prepare for the A+ certification tests. Students analyze realistic hardware/software problems and perform several lab processes to assist in learning techniques and procedures to implement solutions.

**CIS 241 A+ Certification II****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or CIS 102 - Information Systems Fundamentals or program chair approval. Consists of the second of two courses required to train for the A+ Certification program. Presents microcomputer knowledge and skills in detail. Presents an in depth study of the components of a computer system and their relationships to each other. Includes all the concepts required to prepare for the A+ certification tests. Students analyze realistic software/hardware problems and perform several lab processes to assist in learning techniques and procedures to implement solutions.

**CIS 243 Novell Network Administration I****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems. Corequisites: CIS 202 - Data Communications or CIS 235 - Network Fundamentals. Introduces the organization, structure, functions, and administration of a network operating system. Trains the student in administration of a local area network. Presents network operating system concepts such as file and shared printing, data protection, application installation and electronic messaging. Concepts will be incorporated into practical applications.

**CIS 244 Novell Network Administration II****3 Credits**

Prerequisites: CIS 243 - Novell Network Administration I. Introduces file server management, maintenance, installation and configuration concepts and techniques. Trains the student in the tasks required for management and administration of a local area network file server. Presents information on various installation techniques. Concepts will be incorporated into practical applications.

**CIS 245 Networking Technologies Concepts****3 Credits**

Prerequisites: CIS 243 - Novell Network Administration I. Introduces the basic concepts of computer networking. Describes the services provided by a network and explains the different media used to access network services. The OSI model of computer networks is introduced and a description of each of its layers is provided. The OSI model is compared to several different network systems to demonstrate how the network services fit into the model.

**CIS 246 Novell Network Hardware Service and Support****3 Credits**

Corequisites: CIS 244 - Novell Network Administration II. Provides hands-on experience in troubleshooting various components of a computer system including memory, hard disk sub-systems, network interface cards and network cabling. Focuses on the prevention, diagnosis and resolution of hardware-related networking problems. Several hands-on labs are used to allow the student to develop a diagnostic ability.

**CIS 247 Novell Network Administration III****3 Credits**

Corequisites: CIS 246 - Novell Network Hardware Service and Support. Introduces the student to a mixed operating systems network. Introduces network directory services. Teaches the student how to inter-network two different network operating systems. Directory services troubleshooting and network performance issues are covered. Also covers advanced printing techniques and print server configuration.

**CIS 251 Advanced Operating Systems****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating System. Studies advanced topics in operating systems as they apply to Networking applications.

**CIS 252 Web Site Development****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or CIS 102 - Information Systems Fundamentals or program advisor approval. Creates a business or personal World Wide Web presence and uses Web technology. Creates a professional and successful World Wide Web site.

**CIS 253 Graphic Image Lab****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or program advisor approval. Introduces students to computer graphic design. The beginning focus of the course is on basic computer terminology and use, mastering fundamental skills, and developing efficient working styles. These skills are then developed by creating animation, graphics presentations, and graphics manipulations.

**CIS 254 GUI and WWW****3 Credits**

Prerequisites: Previous knowledge of Windows 3.X - Office software; CIS 233 - Graphic User Interfaces: Windows and CIS 232 Visual Basic Programming helpful. Provides a foundation of fundamental concepts in the use of GUI software. Employs a document-centric approach using all the main applications of Windows-Based Operating Systems and Windows-Based Applications, but integrates the use of the World Wide Web to increase the quality of the output.

**CIS 255 Network Operating Systems****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems or program advisor approval. Provides access to many client computers through the hardware and software on each computer. Delivers a view of four primary Network Operating Systems used in the workplace today. It also provides a detailed study with hands-on laboratory exercises that promote an understanding and installation of Network Operating Systems. A special emphasis on Novell (v3.12), (v4.01), Microsoft NT (v3.51 and 4.0) and Unix (Linux) are provided. Students learn how to plan and install the operating system and client workstations.

**CIS 256 LAN/Data Communications****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems or program advisor approval, Windows-based training is recommended. Draws on practical examples to explain technical concepts of data communications. Provides a practical understanding of relevant terminology, concepts, hardware, software, protocols, architectures and other information needed to assist the student in grasping the ever-changing world of data communications. In addition, it provides a look at networks (LAN) and wide area networks (WAN) and explores planning and analyzing communications systems.

**CIS 258 Network Communication and Connectivity****3 Credits**

Prerequisites: CIS 202 - Data Communications or CIS 235 - Network Fundamentals and program advisor approval. Although networking hardware and software are constantly changing, this course presents a detailed view and analysis of the mechanics and protocols used in computer networks. TCP/IP protocols have taken over where OSI protocols have left off. This course attempts to analyze the TCP/IP model and its close association with the Internet and ATM networks.

**CIS 263 Windows NT Network Administration I****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems. Corequisites: CIS 202 - Data Communications or CIS 235 - Network Fundamentals. Introduces the organization, structure, functions, and administration of a network operating system. Trains the student in administration of a local area network. Presents network operating system concepts such as file and shared printing, data protection, application installation and electronic messaging. Concepts will be incorporated into practical application.

**CIS 264 Windows NT Network Administration II****3 Credits**

Prerequisites: CIS 263 - Windows NT Network Administration I. Introduces file server management, maintenance, installation and configuration concepts and techniques. Trains the student in the task required for management and administration of a local area network file server. Presents information on various installation techniques. Concepts will be incorporated into practical applications.

**CIS 266 Windows NT Network Hardware Service and Support****3 Credits**

Prerequisites: CIS 264 - Windows NT Network Administration II. Provides hands-on experience in troubleshooting various components of a computer system including memory, hard disk subsystems, network interface cards and network cabling. Focuses on the prevention, diagnosis and resolution of hardware-related problems. Several hands-on labs are used to allow the students to develop a diagnostic ability.

**CIS 273 Network Administration****3 Credits**

Prerequisites: CIS 106 - Microcomputer Operating Systems. Corequisites: CIS 202 - Data Communications or CIS 235 - Network Fundamentals. Introduces the organization, structure, functions and administration of a network operating system. Trains the student in administration of local area networks. Presents network operating system concepts such as file and shared printing, data protection, application installation and electronic messaging. Concepts will be incorporated into practical applications.

**CIS 280 Co-op/Internship****1-6 Credits**

Prerequisites: None. Provides students with the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**CIS 281-294 Special Topics in Computer Information Systems****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.

**COM 101 Fundamentals of Public Speaking****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competence... through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Introduces fundamental concepts and skills for effective public speaking, including preparation and delivery of informative and persuasive presentations. Includes instruction in the use of visual aids and critical listening.



**COM 102 Introduction to Interpersonal Communication**

**3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Focuses on the process of interpersonal communication as a dynamic and complex system of interactions. Stresses the importance of understanding and applying interpersonal communication theory in work, family and social relationships. Uses lecture/discussion format.

**CRJ 101 Introduction to Criminal Justice Systems**

**3 Credits**

Prerequisites: None. Covers the purposes, functions and history of law enforcement, courts and correctional systems. Explores the interrelationships and responsibilities of the criminal justice system.

**CRJ 103 Cultural Awareness**

**3 Credits**

Prerequisites: None. Studies American criminal justice problems and systems in historical and cultural perspectives. Discusses social and public policy factors affecting crime. Emphasizes multidisciplinary and multicultural perspectives.

**CRJ 105 Introduction to Criminology**

**3 Credits**

Prerequisites: None. Reviews crime and delinquency, types of offenses and offenders and the basic units of the criminal justice system, and introduces the role of law enforcement in prevention and control of deviant behavior.

**CRJ 111 Introduction to Traffic Control**

**3 Credits**

Prerequisites: None. Examines the role of law enforcement in traffic safety, traffic administration, traffic laws, accident investigation, police safety and patrol practices.

**CRJ 113 Criminal Investigations**

**3 Credits**

Prerequisites: None. Studies the organization and functions of investigative agencies, basic considerations in criminal investigations, collection and preservation of physical evidence and elements of legal proof in the submission of evidence. Introduces investigation of specific types of offenses.

**CRJ 115 Criminalistics**

**3 Credits**

Prerequisites: CRJ 113 - Criminal Investigations. Introduces crime scene procedure, theory and practice in evidence collections, transportation, identification, processing and the chain of custody.

**CRJ 118 Introduction to Law Enforcement**

**3 Credits**

Prerequisites: None. Introduces fundamental law enforcement operations and organization. Includes the evolution of law enforcement at federal, state and local levels.

**CRJ 121 Juvenile Law and Procedures**

**3 Credits**

Prerequisites: None. Includes an overview of the juvenile justice system, treatment and prevention programs and special areas and laws unique to juveniles.

**CRJ 123 Juvenile Justice Systems**

**3 Credits**

Prerequisites: None. Introduces the nature, etiology and extent of juvenile crime, functions and jurisdictions of juvenile agencies, and juvenile processing, detention and case disposition.

**CRJ 131 Community Based Corrections**

**3 Credits**

Prerequisites: None. Reviews programs for convicted offenders that are alternatives to incarceration, including diversion, house arrest, restitution, community service and other topics. Reviews post-incarceration situations, probation and parole.

**CRJ 133 Legal Issues in Corrections**

**3 Credits**

Prerequisites: None. Explores sentencing and incarceration, legal issues applicable to probation and parole, objectives of correctional processes and influences in correctional decision making.

**CRJ 202 Adjudication**

**3 Credits**

Prerequisites: None. Includes topics related to the adjudication process in criminal cases including arraignments and preliminary hearings, suppression hearings, trials, sentencing, juvenile court and probation and parole. Reviews the role of criminal justice personnel in court processes.

**CRJ 203 Police and Community Relations**

**3 Credits**

Prerequisites: None. Introduces police-community relations and examines trends, practices and social and individual effects of police work. Emphasizes problem solving, conflict management and police-community interaction.

**CRJ 205 Procedural Criminal Law**

**3 Credits**

Prerequisites: LEG 211 - Criminal Law. Covers theory and practice of procedural criminal law. Introduces law of arrest, search and seizure, confessions, suspect identification and surveillance. Emphasizes Indiana criminal law.

**CRJ 222 Special Issues in Youth Services**

**3 Credits**

Prerequisites: ECE 204 - Families in Transition, HMS 215 - Juvenile Delinquency. Examines issues commonly encountered in the youth care field.

**CRJ 223 Special Issues in Corrections**

**3 Credits**

Prerequisites: HMS 105 - Introduction to Correctional Rehabilitation Services, HMS 204 - Human Services Internship Seminar 2, CRJ 131 - Community-Based Corrections. Investigates topics of special interest related to corrections with an emphasis on the classification and treatment of inmates. Topics may vary to reflect contemporary corrections issues.

**CRJ 280 Internship****4 Credits**

Prerequisites: CRJ 101 - Introduction to Criminal Justice Systems, CRJ 103 - Cultural Awareness, LEG 211 - Criminal Law. Provides fieldwork experience in an approved social, educational, law enforcement, corrections or other criminal justice organization.

**DCT 104 Mechanical Graphics****3 Credits**

Prerequisites: TEC 102 - Technical Graphics, DSN 103 - CAD Fundamentals or advisor approval. Introduces the set concept of working drawings both in detailing and assembly. Presents fastening devices, thread symbols and nomenclature, surface texture symbols, classes of fits and the use of parts lists, titles and revision blocks. Introduces the basics of product design and the design process.

**DCT 105 Architectural Design and Layout****3 Credits**

Prerequisites: TEC 102 - Technical Graphics. Focuses on the architectural drawings of commercial or industrial buildings. Covers problems of space planning, design, materials, HVAC systems and construction methods. Develops working drawings and presentation drawings. Requires oral presentations and discussions. Requires students to complete research on a limited number of construction materials and methods.

**DCT 108 Residential Drafting****3 Credits**

Prerequisites: Advisor approval. Covers residential planning and drafting. Includes interior planning, structural design, and development of working drawings. Provides opportunity for students to design a residence using accepted building standards from information given in class.

**DCT 109 Construction Materials and Specifications****3 Credits**

Prerequisites: None. Introduces various construction materials, composition and application. Studies specifications of materials, construction contracts, and applications required in the building industry.

**DCT 110 Architectural Rendering****3 Credits**

Prerequisites: TEC 102 - Technical Graphics. Presents a survey and history of pictorial drawings. Studies light and color, rendering media, and application of different techniques and media through a series of exercises.

**DCT 112 CAD Applications****3 Credits**

Prerequisites: DSN 103 - CAD Fundamentals. Includes advanced dimensioning techniques using the dimension variables for GDT and ordinate dimensioning, grips, xrefs, aligning auxiliary views, paragraph text importing and editing and the use of system and AutoCAD variables.

**DCT 113 Intermediate CAD****3 Credits**

Prerequisites: DSN 103 - CAD Fundamentals, TEC 104 - Computer Fundamentals for Technology. Continues study of CAD fundamentals. Focuses on advanced CAD features and various methods of customizing CAD systems.

**DCT 201 Schematics****3 Credits**

Prerequisites: TEC 102 - Technical Graphics, DSN 103 - CAD Fundamentals. Corequisites: DCT 206 - Mechanical and Electrical Equipment. Presents the systematic layout of various types of schematic drawing done by a draftsman. Requires students to prepare finished drawings for manufacture or installation of plumbing, heating, electrical, electronic and fluid-power type drawing.

**DCT 202 CAD Customization and Programming****3 Credits**

Prerequisites: DSN 103 - CAD Fundamentals. Covers use of computer language to program commands for CAD.

**DCT 204 Architectural CAD****3 Credits**

Prerequisites: DSN 103 - CAD Fundamentals. Presents advanced computer-aided design topics including architectural design. Includes all necessary drawings needed for the construction process.

**DCT 205 Introduction to Plastics****3 Credits**

Prerequisites: TEC 102 - Technical Graphics. Introduces students to the major plastic processing industries, techniques, and most widely used plastic polymers, their applications and properties.

**DCT 206 Mechanical and Electrical Equipment****3 Credits**

Prerequisites: MAT 111 - Intermediate Algebra or MAT 131 - Algebra/Trigonometry I. Focuses on mechanical and electrical requirements for a structure. Studies electrical load calculations, wire sizing and circuits. Calculates plumbing requirements, fixture units and pipe sizing. Includes heating systems, duct layout and sizing.

**DCT 207 Die Design****3 Credits**

Prerequisites: DCT 104 - Product Drafting, TEC 101 - Manufacturing Processes. Studies the drafting, detailing and design of blanking, piercing and forming dies. Covers material reaction to shear, cutting clearances and nest gauging.

**DCT 208 Structural Design and Detailing****3 Credits**

Prerequisites: TEC 102 - Technical Graphics, DSN 103 - CAD Fundamentals, DCT 109 - Construction Materials and Specifications and Advisor approval. Focuses on detailing commercial structural members, their connections, materials and methods of construction. Concentrates on traditional materials, such as reinforced concrete, masonry, steel and timber.

**DCT 209 Estimating****3 Credits**

Prerequisites: DCT 204 - Architectural CAD, DCT 108 - Residential Drafting. Introduces estimating procedures used in the building industry. Studies material takeoffs, estimating overhead expenses, contingencies, labor and equipment. Involves the use of computers to generate takeoffs and to set pricing.

**DCT 210 Surveying****3 Credits**

Prerequisites: MAT 124 - Geometry/Trigonometry or MAT 131 - Algebra/Trigonometry I. Introduces surveying equipment, procedures for performing measurements, turning angles, determining grades and other field applications. Covers surveying techniques and computations using the level, chain and transit in calculating areas, lines and grades.

**DCT 211 Commercial Structures I****3 Credits**

Prerequisites: DCT 204 - Architectural CAD, DCT 108 - Residential Drafting. Focuses on planning and drawing commercial structures. Uses a presentation drawing and working drawing for concrete structures and steel structures.

**DCT 212 Commercial Structures II****3 Credits**

Prerequisites: DCT 211 - Commercial Structures I. Focuses on planning and drawing commercial structures. Uses working drawings for pre-engineered and concrete/steel structures.

**DCT 213 CAD Mapping****3 Credits**

Prerequisites: DSN 103 - CAD Fundamentals, DCT 210 - Surveying I. Covers the concepts of map making with computer-aided drafting and typical drafting media found in the industry. Studies civil engineering applications of mapping procedures including profiles, topography and site plans.

**DCT 214 Machine Design****3 Credits**

Prerequisites: DCT 104 - Product Drafting, MAT 111 - Intermediate Algebra or MAT 131 - Algebra/Trigonometry I. Presents practical solutions to mechanical design problems. Studies the design of machine elements including shafts, bearings, keys, pins and springs. Includes the geometry and drafting of cams and gears and the study of linkages.

**DCT 215 Electronic Drafting****3 Credits**

Prerequisites: TEC 102 - Technical Graphics and DSN 103 - CAD Fundamentals. Introduces students to electronic schematics, drill indexing, and printed circuit board design. Emphasizes the creation and manipulation of basic symbols, connection diagrams, block and logic diagrams, including the use of figure parts and data extract.

**DCT 216 Jig and Fixture Design****3 Credits**

Prerequisites: DCT 104 - Product Drafting and TEC 101 - Manufacturing Processes. Introduces the processes of drafting and design as applied to tooling. Emphasizes tooling, locators, supports, holding devices, clearances and design as it pertains to jig and fixtures.

**DCT 217 Design Process and Applications****3 Credits**

Prerequisites: DCT 104 - Product Drafting and DSN 222 - Strength of Materials. Provides the student an opportunity to apply all previously acquired knowledge in product drafting to the design of a new or existing consumer product. Considers the function, aesthetics, cost economics and marketability of the product. Requires a research paper and product illustration.

**DCT 227 Geometric Dimensioning and Tolerancing****3 Credits**

Prerequisites: TEC 102 - Technical Graphics. Introduces the fundamental principles of geometric dimensioning and tolerancing according to the latest ANSI standards. Applies geometric dimensioning and tolerancing symbols along with tolerances of form, profile, orientation, run-out, and location.

**DCT 228 Civil I****3 Credits**

Prerequisites: TEC 102 - Technical Graphics and DSN 103 - CAD Fundamentals. Explores the engineering field. Presents an overview of infrastructure design including the study of roadways and drainage systems. Emphasizes site development and highway planning.

**DCT 229 Civil II****3 Credits**

Prerequisites: DCT 228 - Civil I. Presents construction management techniques, including scheduling and contracts. Studies soil properties and paving methods. Examines practical construction considerations.

**DCT 230 Computer Modeling and Animation****3 Credits**

Prerequisites: DSN 220 - Advanced CAD. Instructs students in fundamentals of computer generalized renderings and animations using 3-D Studio software and its components.

**DSN 103 CAD Fundamentals****3 Credits**

Prerequisites: None. Corequisites: TEC 102 - Technical Graphics or advisor approval. Introduces fundamentals of CAD (Computer-Aided Design/Drafting). Includes overview of CAD and systems, use of software and plotter applications. Each student will complete an individual project by the end of the semester.

**DSN 106 Descriptive Geometry****3 Credits**

Prerequisites: TEC 102 - Technical Graphics. Introduces fundamental principles in developing graphical solutions to engineering problems. Covers true length, piercing points on a plane, line intersections, true shapes, revolutions and developments using successive auxiliary views.

**DSN 220 Advanced CAD****3 Credits**

Prerequisites: TEC 102 - Technical Graphics and DSN 103 - CAD Fundamentals. Focuses on advanced CAD features including fundamentals of three dimensional modeling for design. Includes overview of modeling, graphic manipulation, part structuring, coordinate system and developing strategy of model geometry.

- DSN 221 Statics** **3 Credits**  
 Prerequisites: MAT 121 - Geometry/Trigonometry or MAT 131 - Algebra/Trigonometry I. Corequisites: PHY 101 - Physics I. Studies applied mechanics dealing with bodies at rest. Covers units, vectors, forces, equilibrium, moments and couples, planar force systems, distributed forces, analysis of structures (trusses and frames) and friction.
- DSN 222 Strength of Materials** **3 Credits**  
 Prerequisites: DSN 221 - Statics. Studies internal stresses and physical deformations caused by externally applied loads to structural members. Covers stress and strain, shear stress, properties of areas, shearing force and bending moment, deformation of beams, columns and combined stresses. Teaches various materials' physical and mechanical properties.
- DSN 225 Portfolio Preparation** **3 Credits**  
 Prerequisites: 45 credit hours in the program or advisor approval. Focuses on the student's final portfolio and preparation for the job interview. Finalizes design/project work demonstrating acquired knowledge and job skills along with résumé and cover letter preparation for presentation to prospective employers. Every student must submit a copy of final portfolio for departmental archives.
- DSN 280 Co-op/Internship** **3 Credits**  
 Prerequisites: Students must have completed a minimum of 30 credits toward their degree with at least a 3.0 cumulative grade point average. Requires students to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.
- DSN 281-294 Special Topics in Design Technology** **1-5 Credits**  
 Prerequisites: None. Provides students with the opportunity to experience seminars, workshops, and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.
- ECE 101 Beginnings in Child Development** **3 Credits**  
 Prerequisites: None. Examines basic principles of child development, developmentally appropriate practice (DAP), importance of family, licensing and elements of quality care of young children with an emphasis on health and safety and the learning environment. Entry-level course for early care and education teachers.
- ECE 102 Reflections on Practice in Early Childhood** **3 Credits**  
 Prerequisites: None. Examines child care practice, reflecting on the areas of relationship and communication within the program, curriculum development, program management, awareness, diversity and use of community resources. Offers resources to enhance professionalism.
- ECE 103 Curriculum in the Early Childhood Classroom** **3 Credits**  
 Prerequisites: None. Entry-level course for early care and education teachers. Examines developmentally appropriate environments and activities in various child care settings. Explores the varying developmental levels and cultural backgrounds of children.
- ECE 105 CDA Process** **3 Credits**  
 Prerequisites: CHD 142 - Beginnings in Child Development, CHD 143 - Curriculum in the Early Childhood Classroom, CHD 144 - Reflections on Practice in Early Childhood or program chair approval. Prepares the student for the verification process for the Child Development Associate (CDA) credential. Provides opportunity for practical experience through supervised participation in early care and education settings.
- ECE 110 Infant/Toddler Growth and Development** **3 Credits**  
 Prerequisites: None. Studies the physical, social, emotional, cognitive and language development of infants and toddlers from conception. Examines the crucial role of brain development during the first three years.
- ECE 111 Environments for Infants and Toddlers** **3 Credits**  
 Prerequisites: None. Examines the physical, human and time environments required for high-quality care of infants and toddlers. The parent-teacher partnership along with adult-adult relationships within the environment are explored.
- ECE 120 Child Growth and Development** **3 Credits**  
 Prerequisites: None. Studies the physical, social, emotional, and cognitive development of children from conception to age 12, as well as quality care and education of young children.
- ECE 130 Developmentally Appropriate Guidance in a Cultural Context** **3 Credits**  
 Prerequisites: None. Provides a basic understanding of the anti-bias/multi-cultural emphasis in the field of early childhood. Analyzes developmentally appropriate practices, theory, and implementation for various early childhood settings. Includes lectures, field trips, review of current literature and observations.
- ECE 186 Grandparenting/Kinship Parenting** **3 Credits**  
 Provides an overview of the traditional grandparent role and the current role of grandparenting grandchildren. Includes a study of the foals, concerns, and issues confronted by grandparents or other kin in the parenting role.
- ECE 200 Family/Teacher Partnership** **3 Credits**  
 Prerequisites: None. Examines the family/teacher partnership, recognizing the need to work successfully with the child's development. Promotes awareness of families as the child's first teacher and the child's basis for culture, language, attitudes and values. Provides the structure for creating practices that establish active family participation. Explores issues and resources for families.



**ECE 201 Skills for Parenting****3 Credits**

Focuses on skill development in parents to increase their effectiveness in understanding young children, building on the child's self-esteem, communicating with young children, setting appropriate boundaries, and nurturing their emotional and social development. Examines models of parent education, parenting styles, and the need for parent empowerment.

**ECE 204 Families in Transition****3 Credits**

Prerequisites: None. Examines the stages of the family life cycle and interpersonal relationships among family members. Explores systems dynamics within the family, the community and larger culture. Recognizes the impact of context and culture on the family's ability to function.

**ECE 210 Early Childhood Administration****3 Credits**

Prerequisites: CHD 144 - Reflections on Practice in Early Childhood, CHD 122 - Child Growth and Development, CHD 142 Beginnings in Child Development or advisor approval. Introduces principles of managing an early care and education program. Emphasizes the role of the manager to include personnel and program administration and fiscal management. Explores client-community relations.

**ECE 213 Infant/Toddler Care Programming****3 Credits**

Studies the program and operation for quality infant and toddler care and education. Examines the important role of the teacher in establishing positive and productive relationships with families and in managing an effective program.

**ECE 216 Curriculum Planning in the Early Childhood Classroom for Administrators****3 Credits**

Prerequisites: Program chair permission. Presents an overview of cognitive and creative curriculum from a developmentally appropriate perspective. Examines early childhood curriculum models with an emphasis on planning and evaluating curriculum to meet the comprehensive needs of the young child. Emphasizes staff and family involvement in curriculum planning, implementation and assessment.

**ECE 218 Leadership and Mentoring in Early Childhood Education****3 Credits**

Prerequisites: At least 20 hours of early childhood coursework. Introduces the concept of leadership. Includes theories of leadership and teamwork and provides an opportunity for students to shadow a leader in an early childhood setting.

**ECE 223 School Age Programming****3 Credits**

Prerequisites: None. Examines environments, materials, methods and teaching styles for providing creative experiences for the school age child. Offers appropriate experiences in music, movement, art and drama as well as methods to assist students in identification and pursuit of specific personal interest areas in a school age child care setting. Reviews theories of adolescent growth and development, establishment of partnerships with families and positive guidance techniques for school age children.

**ECE 225 Infant Toddler Practicum****3 Credits**

Prerequisites: CHD 120 - Infant/Toddler Growth and Development. Corequisites: CHD 113 - Environments for Infants and Toddlers or CHD 213 - Infant/Toddler Care Programming. Provides opportunity for practical experiences through observation and supervised participation in an infant/toddler setting. Students develop and implement appropriate activities for this age of children.

**ECE 230 The Exceptional Child****3 Credits**

Prerequisites: None. Provides an introduction to caring for children with special needs. Includes theories and practices for producing optimal developmental growth while developing effective teaching techniques. Explores public policy, inclusion, early intervention and individual education programs (IEPs). Explores the many types of special needs and provides methods for helping with them.

**ECE 233 Emerging Literacy in Young Children****3 Credits**

Prerequisites: None. Emphasizes the development and acquisition of language in order to provide materials and activities for optimum growth. Students explore and evaluate literacy for young children and its role in the child's development. Students evaluate young children's literature for its appropriateness. Introduces audiovisual material, techniques and various types of equipment and materials used to promote literacy in young children.

**ECE 235 Preschool Practicum****3 Credits**

Prerequisites: CHD 142 - Beginnings in Child Development, CHD 144 - Reflections on Practice in Early Childhood. Corequisites: CHD 143 - Curriculum in the Early Childhood Classroom. Provides opportunity for practical experience through observation and supervised participation in early child care and education setting with children ages 3-5. Students will develop and implement developmentally appropriate environments and activities.

**ECE 240 Introduction to Care in the Home****3 Credits**

Offers an overview of care of children offered in a home-like setting. The course includes providing safe, healthy learning environment in the home setting, family-provider relationships, and recommendation for developing a professional support system.

**ECE 243 Cognitive Curriculum****3 Credits**

Prerequisites: None. Reviews cognitive theories to develop appropriate practices in activities as they relate to problem-solving skills, math, science and social studies in early childhood settings. Reviews multicultural education.

**ECE 245 School Age Practicum****3 Credits**

Prerequisites: CHD 122 - Child Growth and Development, CHD 142 - Beginnings in Child Development. Corequisites: CHD 211 - School Age Programming. Provides opportunities for practical experience through observation and supervised participation in a school-age setting. Students will develop and implement appropriate environments and activities.

**ECE 255 Generalist Practicum****3 Credits**

Prerequisites: CHD 144 - Reflections on Practice in Early Childhood, CHD 122 - Child Growth and Development. Corequisites: CHD 143 - Curriculum in the Early Childhood Classroom. Provides opportunity for practical experience through observation and supervised participation in child care settings. This practicum covers experiences with ages infant through school age.

**ECE 260 Early Childhood Professional****3 Credits**

Corequisites: Completion of 48 program credits. Surveys and further examines early childhood philosophies, theories and theorists. Encourages students to form their own theories for learning, discipline, family involvement and self-concept development. Identifies preferred settings and environments for professional practice. Guides students in the development of a professional graduation portfolio.

**ELT 120 Introduction to Electronics****3 Credits**

Prerequisites: MAT 050 - Basic Algebra. Provides the student with limited preparatory study and entry into program level content. Topics include laboratory skills, basic manipulative skills, interpretation of diagrams and hand soldering techniques. Emphasis is placed upon the use of Electronic Work Bench software to model and analyze electronic components and circuits.

**ELT 121 Circuits I****3 Credits**

Corequisites: MAT 131 - Algebra/Trigonometry or MAT 134 - Trigonometry and ELT 120 - Introduction to Electronics. Introduces the basics of electricity and electronics. Covers DC circuits. Uses lab work to stress the use of test equipment. Discusses resistance, magnetism, series circuits, parallel circuits, Ohm's Law, Kirchhoff's Laws and circuit analysis (superposition, Thevenin, etc.).

**ELT 122 Circuits II****3 Credits**

Prerequisites: ELT 121 - Circuits I, MAT 131 - Algebra/Trigonometry I. Studies electrical principles and laws pertaining to alternating current and voltage. Covers AC network theorems, operator, phasors, reactances, impedances, phase relationships, power, resonance, transformers, polyphase and filter circuits.

**ELT 124 Digital I****3 Credits**

Corequisites: ELT 120 - Introduction to Electronics, MAT 111 - Intermediate Algebra or equivalent score on the ASSET intermediate algebra test. Introduces digital electronics including logic gates and combinational logic circuits. Studies binary arithmetic, Boolean algebra, mapping techniques, digital encoders and decoders, multiplexers and demultiplexers and arithmetic circuits. Uses SSI and MSI digital integrated circuits.

**ELT 125 Digital II****3 Credits**

Prerequisites: ELT 124 - Digital I. Offers advanced study of digital systems including memory and D/A conversion. Covers construction of specified timing circuits, design driver/display systems, selected register design, counters and arithmetic circuits and validation of operation. Studies hardware and general microprocessor system organization.

**ELT 126 Solid State I****3 Credits**

Prerequisites: MAT 131 - Algebra/Trigonometry I, or MAT 134 - Trigonometry, ELT 122 - Circuits II (may be corequisite). Studies characteristics and applications of semiconductor devices and circuits. Covers signal and rectifying diodes, bipolar transistors, rectification, single and multistage amplifiers, AC/DC load lines, biasing techniques, equivalent circuits and power amplifiers.

**ELT 127 Industrial Electronics****3 Credits**

Prerequisites: ELT 126 - Solid State I. Presents overview of electronics in the industrial setting. Instructs students in how electronics is applied to industrial systems. Introduces power machines, polyphase systems, solid state controls, transducers and industrial computer systems.

**ELT 128 Introduction to Lasers****3 Credits**

Prerequisites: MAT 131 - Algebra/Trigonometry I. Introduces laser action, laser beam characteristics, types of lasers, safety considerations, general laser applications, laser and optical equipment. Teaches basics of laser, laser systems and prepares beginning laser students for future courses.

**ELT 130 Fiber Optics****3 Credits**

Corequisites: ELT 122 - Circuits II. Presents overview of fiber optics. Studies uses for fiber optics, advantages, cable details, connectors, splices, sources, detectors and fiber optic systems.

**ELT 203 Introduction to Industrial Controls****3 Credits**

Prerequisites: ELT 221 - Solid State II, ELT 223 - Electrical Machines. Studies basics of controls related to industrial electronics. Includes basic and pilot control devices such as circuit layouts, industrial schematics, reduced voltage starters and multi-speed controllers. Covers transformer hook-ups and circuit protection.

**ELT 206 Analog Troubleshooting Techniques****3 Credits**

Prerequisites: ELT 228 - Communications Electronics. Studies techniques for logical troubleshooting of electronic circuits and simple systems with emphasis on systematic diagnostic methods, signal tracing and signal injection methods. Provides experience in use of test equipment and electronic communication skills.

**ELT 207 Digital Troubleshooting Techniques****3 Credits**

Prerequisites: ELT 222 - Microprocessors. Studies techniques for logical troubleshooting of microcomputers. Includes modal testers, microcomputer controlled testers, static stimulus testers, signature analysis and logic analyzers. Emphasizes system oriented troubleshooting procedures.

**ELT 212 Networking****3 Credits**

Prerequisites: ELT 222 - Microprocessors. Studies types of protocol used in data communication systems. Includes an overview of networking, networking control and interfacing. Emphasizes protocols, packet switching systems and local area networks.

#### **ELT 214 Industrial Instrumentation**

**3 Credits**

Prerequisites: ELT 126 - Solid State I. Emphasizes precision measurement via pressure, strain, force, flow and level gauges. Covers the related probes, sensors, transducers, computer interfaces, computer hardware and peripherals and computer software necessary for the acquisition, summarization, analysis and presentation of data.

#### **ELT 215 Laser Systems and Applications**

**3 Credits**

Prerequisites: ELT 122 - Circuits II, ELT 128 - Introduction to Lasers, ELT 240 - Optics. Provides an in-depth coverage of laser types and applications. Focuses on ion, molecular, liquid, solid state and semi-conductor lasers with specific attention given to Nd:YAG, Ruby, CO 2 and gallium arsenide. Discusses flash lamps, power supplies (CW and pulsed) and energy transfer mechanisms for each laser type. Examines other parts of laser systems including electro-optic and acousto-optic modulators, Q-switching, mode locking and mechanical and bleachable dye methods. Includes a description of lasers in medicine, surgery, dentistry, communications, range finding, alignment tracking, welding, cutting, drilling, data recording and display. Stresses hands-on operation and troubleshooting of each laser type and small-scale examples of applications.

#### **ELT 216 Laser and Optical Measurements**

**3 Credits**

Prerequisites: None. Examines the instruments and methods available for evaluating laser light and supporting optical equipment (lenses, mirrors, etc.). Includes an introduction to radiometry/photometry and typical energy/power detectors. Photographic recording mediums and important optical measuring instruments (spectrometers, spectrophotometers, monochromators and interferometers) and methods (interference and non-interference testing) are also discussed. Laboratory experiments stress hands-on experience with current optical measuring equipment and methods.

#### **ELT 219 Biomedical Electronics I**

**3 Credits**

Prerequisites: ELT 125 - Digital II. Offers further study of medical electronics equipment including ECG, EEG, defibrillators, heart monitors and other monitoring and respiratory equipment.

#### **ELT 220 Biomedical Electronics II**

**3 Credits**

Prerequisites: ELT 219 - Biomedical Electronics I. Studies medical support systems including x-ray equipment, respirators and analyzers, and their maintenance. Studies medical ultra-sound, electrosurgery units and mechanical recorders. Prepares students for licensing and certification.

#### **ELT 221 Solid State II**

**3 Credits**

Prerequisites: ELT 126 - Solid State I. Studies applications of special-purpose diodes, thyristors and unipolar transistors. Discusses frequency effects and responses of amplifiers. Includes discrete SCRS, UJT, FETs, oscillators, linear regulated power supplies, switching regulators and power amplifiers. Introduces op-amps.

#### **ELT 222 Microprocessors**

**3 Credits**

Prerequisites: TEC 104 - Computer Fundamentals for Technology, ELT 125 - Digital II. Introduces microprocessor system organization, operation, design, troubleshooting and programming. Investigates and analyzes a microprocessor instruction set for its operation. Includes programming and interfacing a microprocessor.

#### **ELT 223 Electrical Machines**

**3 Credits**

Prerequisites: ELT 122 - Circuits II, MAT 131 - Algebra/Trigonometry I. Provides an overview of electrical machines and how they relate to industrial electronics. Gives industrial electronics technicians insight into electrical power generation, polyphase system, transformers, all types of electrical motors, power factor and power factor correction, back-up power and electrical power monitoring.

#### **ELT 224 Linear Integrated Circuit Application**

**3 Credits**

Prerequisites: ELT 221 - Solid State II. Introduces operational amplifiers (op-amps), characteristics and operations. Includes op-amp active filters, amplifiers, regulators, comparators, timers, oscillators and phase-locked loops.

#### **ELT 225 Introduction to National Electrical Code**

**3 Credits**

Prerequisites: None. Introduces the role and use of the National Electrical Code Book. Provides an overview of interpretation, calculations, and revisions of the code book.

#### **ELT 226 Computer Troubleshooting**

**3 Credits**

Prerequisites: ELT 222 - Microprocessors. Studies techniques for logical troubleshooting of microcomputers. Emphasizes system-oriented troubleshooting procedures.

#### **ELT 227 Peripherals**

**3 Credits**

Prerequisites: ELT 226 - Computer Troubleshooting. Studies peripherals commonly used with computers and microcomputers interfacing with these peripherals. Includes a study of data communications hardware and techniques. Studies the design of circuits to interface microprocessors with industrial equipment. Includes microcomputer systems interfacing with input and output transducers for control systems. Studies techniques for logical troubleshooting of microcomputer systems.

#### **ELT 228 Communications Electronics**

**3 Credits**

Corequisites: ELT 221 - Solid State II. Analyzes communication circuits with emphasis on AM, FM, SSB, and stereo transmitter and receiver systems. Includes noise modulation and demodulation principles, phase-locked loop, RF amplifiers, automatic gain control, detectors, limiters and discriminators. Offers hands-on lab exposure to analog circuits utilizing analysis and troubleshooting techniques.

#### **ELT 229 Telecommunications**

**3 Credits**

Prerequisites: ELT 125 - Digital II, ELT 126 - Solid State I. Examines various methods in transmitting digital data from one location to another. Covers time and frequency division multiplexing. Includes pulse-code and delta modulation, telemetry, error detection and correction and simple networks. Covers techniques for logical troubleshooting of telephonic systems.



- ELT 230 Advanced Communications Electronics** **3 Credits**  
Prerequisites: ELT 228 - Communications Electronics. Introduces antenna principles and wave propagation and an in-depth study of matching techniques for transmission lines. Includes the Smith Chart and a thorough study of television operation. Measures radiation patterns with different antenna arrays. Practices digital and analog troubleshooting techniques.
- ELT 231 Microwave Communications** **3 Credits**  
Prerequisites: ELT 230 - Advanced Communications Electronics. Studies microwave transmission lines, waveguides, waveguide components including hybrid couplers, attenuators, microwave filters, phase shifters, T-junctions, irises and microwave tubes.
- ELT 233 Industrial Motors and Controls** **3 Credits**  
Prerequisites: ELT 122 - Circuits II, AMT 201 - Manufacturing Systems Control (PLCs). Provides a complete understanding of basic ladder and wiring diagrams used in the control of electric motors. Includes the various electrical components and their functions as applied to motor controls. Topics include the various types of motors used in applying electro-mechanical power, ranging from small AC shaded-pole fan motors through larger three phase motors. Motor starting components, protective devices, heat dissipation, motor slippage and frequency and multi-speed motors are discussed. Lab assignments allow the student a hands-on approach to wiring various control components in the operation of three-phase motors.
- ELT 234 Advanced Problem Solving** **3 Credits**  
Prerequisites: ELT 125 - Digital II. Corequisites: ELT 221 - Solid State II, ELT 224 - Linear Integrated Circuit Applications. Introduces logical troubleshooting of electronic circuits and systems with emphasis on systematic diagnostic methods and technical reference research. Provides further experience in the use of test equipment and proper repair techniques. Includes job preparedness skills and preparation for appropriate certification testing.
- ELT 235 Process Control** **3 Credits**  
Prerequisites: ELT 224 - Linear Integrated Circuit Applications. Covers theory and applications of process control including the principles of PID, feedback, open loop and closed loop systems and typical process control applications.
- ELT 237 Calibrations** **3 Credits**  
Corequisites or Prerequisites: ELT 122 - Circuits II. Provides training in dismantling and calibration of instruments (electronic and pneumatic) found in industry, including DP cells, pH and oxygen analyzers, valve positioners, thermocouple circuits and controllers and control valves.
- ELT 238 Process Instrumentation** **3 Credits**  
Prerequisites: ELT 125 - Digital II, ELT 221 - Solid State II. Presents the concepts and fundamentals of measurement instrumentation and its application to industrial process control.
- ELT 239 Troubleshooting Techniques** **3 Credits**  
Prerequisites: ELT 125 - Digital II, ELT 221 - Solid State II, ELT 233 - Industrial Motors and Controls, and approval of program chair. Introduces techniques of logical troubleshooting of electronic circuits and systems with emphasis on systematic diagnostic methods, signal tracing and signal injection methods. Provides further experience in the use of test equipment and proper repair techniques. Class sessions will consist of lecture, discussion and problem recitation. Problem-solving and laboratory assignments will reinforce concepts in the reading and lecture experience.
- ELT 280 Co-op/Internship** **1-6 Credits**  
Prerequisites: None. Provides students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.
- ELT 281-294 Special Topics in Electronics Technology** **1-5 Credits**  
Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.
- ENG 001 Elementary English as a Second Language** **3 Credits**  
Prerequisites: Demonstrated ability to write and understand simple statements and questions on familiar topics. The suggested range on the English Placement Test is 16-35. Emphasizes writing elementary statements, reading and understanding elementary materials and expanding competence in speaking and listening.
- ENG 002 Intermediate English as a Second Language** **3 Credits**  
Prerequisites: Demonstrated intermediate competency in English with ability to read, write, and speak with control of basic language structures. The suggested range on the English Placement Test is 36-54. Emphasizes writing, reading and speaking with increasing competence in academic and social situations.
- ENG 003 Pre-Academic English as a Second Language** **3 Credits**  
Prerequisites: Demonstrated fair control of most sentence structure, expository materials, statement and conversation in social and academic settings. The suggested range on the English Placement Test is 55-65. Emphasizes paragraph organization, reading and understanding expository and academic materials through vocabulary development. Develops comprehension of social and academic conversations and lectures.
- ENG 004 Academic English as a Second Language** **3 Credits**  
Prerequisites: Demonstrated ability to write with some ease, understand expository academic reading material, understand lectures and converse in academic and social situations. The suggested range on the English Placement Test is 66-84. Emphasizes organization of expository writing, finding main ideas and details in academic texts and understanding and speaking in academic settings.

<b>ENG 010 English As A Second Language - Reading I</b> Prerequisites: CASAS/IRCA Pre-enrollment Appraisal. Develops basic reading skills in English using texts on subjects relating to American culture. Emphasizes vocabulary acquisition, dictionary use, reading strategies for basic comprehension and interpretation. Uses collaborative technique of student interaction.	<b>3 Credits</b>
<b>ENG 011 English As A Second Language - Reading II</b> Prerequisites: Level I ESL Reading Mastery. Stresses comprehension skills using texts which focus on American cultural values. Focuses on vocabulary expansion, comprehension and interpretation strategies, and experience with various forms of reading material.	<b>3 Credits</b>
<b>ENG 012 English As A Second Language - Reading III</b> Prerequisites: ENG 011 - English As A Second Language - Reading II. Stresses comprehension skills and reading strategies for academic materials. Focuses on vocabulary expansion, transitional development, theme development and critical analysis of academic writing. Allows for practice in increased reading proficiency.	<b>3 Credits</b>
<b>ENG 013 English As A Second Language - Listening/Speaking I</b> Prerequisites: CASAS/IRCA Pre-Enrollment Appraisal. Focuses on listening and speaking strategies for comprehensible input. Provides practice recognizing and producing speech patterns of American English. Allows for conversational practice on topics of cultural values and behaviors.	<b>3 Credits</b>
<b>ENG 014 English As A Second Language - Listening/Speaking II</b> Prerequisites: Level I ESL Listening/Speaking Mastery. Provides practice in recognizing and producing speech patterns of American English. Allows for conversational practice with emphasis on cross-cultural values and behaviors and the use of idioms.	<b>3 Credits</b>
<b>ENG 015 English As A Second Language - Listening/Speaking III</b> Prerequisites: ENG 014 - English As A Second Language - Listening/Speaking II. Provides experience in recognizing and producing speech patterns of American English. Allows for conversational practice relating to academic and cultural subjects with an emphasis on critical thinking skills expressed verbally.	<b>3 Credits</b>
<b>ENG 016 English As A Second Language - Grammar/Structure I</b> Prerequisites: CASAS/IRCA Pre-enrollment Appraisal. Focuses on the acquisition of basic patterns of structure and syntax for controlled communication. Emphasis is on the form, meaning and usage of basic structures in American English, providing practice through extensive and varied communicative activities.	<b>3 Credits</b>
<b>ENG 017 English As A Second Language - Grammar/Structure II</b> Prerequisites: Level I ESL Grammar/Structure Mastery. Focuses on the study of patterns of more advanced structure and syntax. Emphasis is on the acquisition of sentence structure for verbal and written communication of the relationship of ideas.	<b>3 Credits</b>
<b>ENG 018 English As A Second Language - Grammar/Structure III</b> Prerequisites: ENG 017 - English As A Second Language - Grammar/Structure II. Focuses on the acquisition of more advanced patterns of structure and syntax. Emphasis is on the development of competent verbal and written expression in critical analysis for academic purposes.	<b>3 Credits</b>
<b>ENG 019 English As A Second Language - Writing I</b> Prerequisites: CASAS/IRCA Pre-enrollment Appraisal. Focuses on conventions for basic written communication in English emphasizing sentence construction and paragraph development. Uses writing strategies to produce coherent expression in journals, free writing exercises, paragraphing and short essays. Student collaboration is a part of the learned writing process.	<b>3 Credits</b>
<b>ENG 020 English As A Second Language - Writing II</b> Prerequisites: Level ESL Writing Mastery. Focuses on techniques of written communication for coherent expression of ideas through paragraph development and essay writing. Emphasizes the writing process using strategies of revision and editing through peer collaboration. Stresses the structure and syntax of written expression for effective communication.	<b>3 Credits</b>
<b>ENG 021 English As A Second Language - Writing III</b> Prerequisites: ENG 020 - English As A Second Language - Writing II. Focuses on techniques of written communication for the analysis and elaboration of academic material through paragraph and essay writing. Emphasizes the strategies of the writing process through rhetorical modes of composition for varied purposes. Extensive use of structure and syntax for thoroughly coherent expression.	<b>3 Credits</b>
<b>ENG 007 Spelling</b> Prerequisites: None. Improves basic spelling competencies through practice and attention to spelling rules and exceptions.	<b>3 Credits</b>
<b>ENG 024 Introduction to College Writing I</b> Prerequisites: Demonstrated competency through appropriate assessment (ASSET 32-37, COMPASS 23-51). Enables the beginning college writer to develop control of the writing process through writings which are focused, organized and well developed. Requires students to demonstrate proficiency in basic standard writing conventions including grammar and mechanics.	<b>3 Credits</b>
<b>ENG 025 Introduction to College Writing II</b> Prerequisites: Successful completion of ENG 024 - Introduction to College Writing I or demonstrated competency through appropriate assessment (ASSET 38-40, COMPASS 52-69). Builds on the competencies learned in ENG 024 - Introduction to College Writing I and prepares students for entry into English 111 - English Composition. Enables beginning college writers to expand control of the writing process through writings which are focused, organized and well developed. Requires students to demonstrate increased proficiency in the use of standard writing conventions.	<b>3 Credits</b>

<b>ENG 028 Vocabulary Building</b>	<b>1 Credit</b>
Prerequisites: None. Focuses on developing general English vocabulary. Includes dictionary skills, context skill and work structure analysis.	
<b>ENG 031 Reading Strategies for College I</b>	<b>3 Credits</b>
Prerequisites: Demonstrated competency through appropriate assessment (ASSET 32-35, COMPASS 44-65). Increases performance in reading comprehension, vocabulary and flexibility. Introduces critical reading skills and study strategies.	
<b>ENG 032 Reading Strategies for College II</b>	<b>3 Credits</b>
Prerequisites: Successful completion of ENG 031 - Reading Strategies for College I or demonstrated competency through appropriate assessment (ASSET 37-39, COMPASS 66-79). Enhances performance in reading flexibility, vocabulary and comprehension beyond the level of ENG 031 - Reading Strategies for College I. Emphasizes critical reading and strategies for effective study.	
<b>ENV 101 Introduction to Environmental Technology</b>	<b>3 Credits</b>
Prerequisites: None. Provides students with an overview of pollution problems involving water, air, solid waste, radiation population, and noise. Discusses current national and international problems and concerns.	
<b>ENV 102 Environmental Management</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the political process of environmental law.	
<b>ENV 103 Environmental Chemistry</b>	<b>3 Credits</b>
Prerequisites: MAT 111 - Intermediate Algebra. Provides hands-on laboratory training in the application of EPA and state-required permit parameters to determine facility compliance. Reviews sampling techniques and preservation methods and basic statistical quality control analysis.	
<b>ENV 104 Plant Operations—Sanitary</b>	<b>3 Credits</b>
Prerequisites: Advisor approval. Provides the basic principles of aerobic and anaerobic biological treatment processes including activated sludge, trickling filters, lagoons, sludge handling and disinfection. Reviews state and federal regulations related to wastewater plants.	
<b>ENV 105 Air Management</b>	<b>3 Credits</b>
Prerequisites: None. Focuses on understanding air pollution sources, effects and treatment technologies.	
<b>ENV 106 Water</b>	<b>3 Credits</b>
Prerequisites: ENV 103 - Environmental Chemistry. Introduces the basic treatment processes of water supplies including coagulation, sedimentation, filtration, chemical dosage, taste and odor control.	
<b>ENV 107 Applied Research I</b>	<b>3 Credits</b>
Prerequisites: Advisor approval. Requires completion of a special project or case study specifically related to the occupational area. Serves as a field project within the framework of actual working experience in business or industry or a research case study including data collection and data analysis.	
<b>ENV 204 Basic Fluid Mechanics</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the principles of flow measurement, metering in closed conduits, open channels, streams, storm run-off, pump characteristics and air flow.	
<b>ENV 208 Plant Operations—Industrial</b>	<b>3 Credits</b>
Prerequisites: Advisor approval. Covers wastewater treatment processes including coagulation, sedimentation, activated sludge, neutralization, equalization and cyanide and chromate removal. Presents instrumentation, maintenance and troubleshooting. Includes operations, laboratory testing and associated mathematics.	
<b>ENV 214 Environmental Regulations</b>	<b>3 Credits</b>
Prerequisites: None. Surveys the major current environmental regulations.	
<b>ENV 215 Waste Disposal</b>	<b>3 Credits</b>
Prerequisites: ENV 212 - Solids Handling and Disposal. Provides students with a basic understanding of solid and hazardous waste disposal problems.	
<b>ENV 280 Co-op/Internship</b>	<b>1-6 Credits</b>
Prerequisites: Departmental approval. Provides students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.	
<b>HAH 110 Art Appreciation</b>	<b>3 Credits</b>
Prerequisite: Successful completion of ENG 031, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. An introductory course in art which explores the creative processes of humankind, its usage of specific traditional and contemporary media for communication and the study of periods and styles in art as they relate to the human condition. Students must complete work based on observation and/or research for oral or written presentation or seminar participation as assigned by the instructor. 3 class hours.	
<b>HAH 130 Art History I—Pre-history to 1500</b>	<b>3 Credits</b>
Prerequisites: HAH 110 or 199, and successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. HAH 110 or 199 is not required for students whose recentered SAT Verbal score is (R)420 or greater. Surveys painting, sculpture, and architectural styles from ancient cultures to the pre-Renaissance era. Emphasizes the historical context of art movements as well as analysis of the work of individual artists. Provides a foundation for the study of art history. 3 class hours.	



### **HAH 131 Art History II-1500 to 20th Century**

**3 Credits**

Prerequisite: HAH 110 or 199, and successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement testing scores. HAH 110 or 199 is not required for students whose re-centered SAT Verbal score is (R)420 or greater. Surveys painting, sculpture, and architectural styles from the Renaissance to the 20th Century. Emphasizes the historical context of art movements as well as analysis of the work of individual artists. Focuses on developing analytical skills. 3 class hours.

### **HEA 101 Heating Fundamentals**

**3 Credits**

Prerequisites: None. Introduces fundamentals applicable to the heating phase of air conditioning. Includes types of units, parts, basic controls, functions and applications. Emphasizes practices, tools and meter uses, temperature measurement, heat flow, heat measurement, introduction to psychrometrics and heat loss/gain.

### **HEA 103 Refrigeration I**

**3 Credits**

Prerequisites: None. Introduces refrigerant compression systems used in mechanical refrigeration, including the refrigeration cycle. Introduces safety procedures and proper uses of tools used to install and service refrigeration equipment.

### **HEA 104 Heating Service**

**3 Credits**

Prerequisites: HEA 101 - Heating Fundamentals and TEC 113 - Basic Electricity. Covers procedures used to analyze mechanical and electrical problems encountered when servicing heating systems including gas, oil, electric and hydronic heating equipment. Considers electrical schematic and diagrams, combustion testing, venting and combustion air requirements, installation and service procedures.

### **HEA 106 Refrigeration II**

**3 Credits**

Prerequisites: HEA 103 - Refrigeration I and TEC 113 - Basic Electricity. Continues Refrigeration I with further study of compressors, metering devices and an introduction to troubleshooting procedures. Includes clean-up procedures following compressor burn-out and analysis of how a single problem affects the rest of the system.

### **HEA 107 Duct Fabrication and Installation**

**3 Credits**

Prerequisites: Advisor approval. Emphasizes reading blueprints common to the sheet metal trade, floor plans, elevations, section, detail and mechanical plans. Requires students to develop a layout of an air conditioning system, layout of duct work and fittings and fabrication of these parts, including proper use of hand-tools, and shop equipment used to fabricate duct work and fittings.

### **HEA 201 Cooling Service**

**3 Credits**

Prerequisites: TEC 113 - Basic Electricity and HEA 103 - Refrigeration I. Covers procedures used to diagnose electrical control problems found in residential air conditioning and refrigeration systems including 24-volt and line voltage controls such as defrost timers, defrost heaters, relays and cold controls with emphasis on schematic and pictorial diagrams.

### **HEA 202 Electrical Circuits and Controls**

**3 Credits**

Prerequisites: HEA 101 - Heating Fundamentals, HEA 103 - Refrigeration I, and TEC 113 - Basic Electricity. Studies various kinds of heating, air conditioning and refrigeration controls. Includes gas, oil, cooling and electric heat controls, thermostats and other kinds of variable controls such as humidistats, aquastats and electronic thermostats and temperature controls. Covers operation of controls and how they are integrated into complex systems by using schematic and pictorial diagrams. Presents component troubleshooting and testing.

### **HEA 204 Commercial Refrigeration**

**3 Credits**

Prerequisites: HEA 106 - Refrigeration II. Examines air conditioning and refrigeration systems for commercial use, including medium- and low temperature applications. Includes refrigeration accessories, metering devices and advance control arrangements.

### **HEA 206 Advanced Cooling Service**

**3 Credits**

Prerequisites: HEA 201 - Cooling Service. Considers methods of troubleshooting electrical and mechanical components of air conditioning and refrigeration systems.

### **HEA 214 Applied Design**

**3 Credits**

Prerequisites: Advisor approval. Provides students with the opportunity to design and lay out a complete HVAC system.

### **HEA 220 Distribution Systems**

**3 Credits**

Prerequisites: Advisor approval. Covers methods used in calculating building envelope heat loss and gain in sizing units for residential and light commercial applications. Studies the relationship of air properties to temperature and the design of systems for residential and light commercial structures. Includes the sizing and configurations of air delivery duct systems.

### **HEA 221 Heat Pumps and Cooling Service**

**3 Credits**

Prerequisites: HEA 106 - Refrigeration II. Covers procedures used to diagnose electrical control problems found in residential air-to-air, geothermal heat pump and cooling systems including 24-volt and line voltage controls. Familiarizes students with the refrigeration cycle as it applies to the heat pump. Covers correct charging procedures and sizing of heat pumps. Includes trouble shooting of heat pumps and cooling systems such as defrost timers, defrost heaters, relays and cold controls with emphasis on schematic and pictorial diagrams.

### **HEG 249 Elements of General Linguistics**

**3 Credits**

Prerequisite: Successful completion of READ 011, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. A study of basic linguistic concepts and an introduction to historical, comparative, descriptive, and applied linguistics. 3 class hours.

### **HEG 250 English Grammar**

**3 Credits**

A study of the grammars of American English. A course designed to acquaint students with the modern descriptions of the structures of language. 3 class hours.



**HEH 110 Introduction to Humanities I****3 Credits**

Prerequisite: Successful completion ENG 032, or recentered SAT Verbal score of (R) 420 or greater, or appropriate placement test scores. A general education course designed to acquaint students with the broad and interrelated disciplines with the humanities. The content includes painting, sculpture, architecture, and drama. 3 class hours.

**HEH 111 Introduction to Humanities II****3 Credits**

Prerequisite: Successful completion ENG 032, or recentered SAT Verbal score of (R) 420 or greater, or appropriate placement test scores. HEH 110 is not a prerequisite for HEH 111. A general education course designed to acquaint students with the broad and interrelated disciplines within humanities. The content includes dance, literature, music, and film. 3 class hours.

**HEL 220 Introduction to World Literature I****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores, and successful completion of HEW 101 or HEW 112. A general education survey course designed to acquaint the student with the literary masterpieces and various literary types produced from Homer's time to Shakespeare's. The course includes a study of drama, poetry (with some attention to epic form as well as shorter narrative verse), and the philosophic essay. Combines practice in advanced expository writing with literary study. 3 class hours.

**HEL 221 Introduction to World Literature II****3 Credits**

Prerequisite: Successful completion of any one of the following: HEW 101, HEW 112, or HEL 220. A general education survey course designed to acquaint the student with selected major literary works and various literary types produced from the Jacobean period to the present. The course content includes work by the Eastern, Continental, British, and American authors. Instruction in research techniques and writing research papers is combined with literary study. To meet the requirements of a second writing course, students must complete HEL 220 and HEL 221 with at least a C average. 3 class hours.

**HEL 222 American Literature I****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. A study of major American poets and prose writers, noting their relationship to contemporary English writers. The course emphasizes the early colonial, national, and sectional periods of literature. 3 class hours.

**HEL 223 American Literature II****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. A study of the poets and prose writers of the so-called Second National Period of American Literature. The course also includes some of the present-day writers of poetry, prose, and drama. 3 class hours.

**HEL 224 Survey of English Literature I****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. A study of major British poets and prose writers, beginning with Beowulf and ending with the eighteenth century. Emphasis will be given to the developing of genres of the period. 3 class hours.

**HEL 225 Survey of English Literature II****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. A study of British poets and prose writers emphasizing the Romantic, Victorian, and modern periods. 3 class hours.

**HEL 227 Introduction to World Fiction****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. A general education course designed to acquaint students with the fiction genre. The course examines fiction of various types and periods by Continental, Eastern, American and British authors. 3 class hours.

**HEL 232 The Literary Image of Woman: Colony to Modern State****3 Credits**

This course will present a survey of the image of woman as demonstrated in American letters and modern film from 1620 to the present. The course will thus deal with both stereotyped and admiring portraits, and in doing so will, as literary survey must, demonstrate the link between literary production and the changing cultural milieu as it relates to women in America. 3 lecture/discussion hours.

**HEL 240 Children's Literature****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. This course is designed both for education majors who need to meet state requirements and for students who may wish to gain or regain appreciation for the best literature written for children. Classic and modern children's books, ranging from kindergarten to junior high level, will be read and discussed. 3 class hours.

**HEW 009 Fundamentals of Writing****3 Credits**

This course is designed for students deficient in English fundamentals. Course work centers on writing sentences and paragraphs. Instruction is given in the elements of grammar, syntax, punctuation, and spelling. For students with a recentered SAT verbal score of (R)360 or below or equivalent scores on the ACT and placement examination. 3 class hours.

**HEW 011 Writing Techniques****3 Credits**

Prerequisite: Successful completion of HEW 009, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. This course is designed to help students who have completed HEW 009 but who are not yet ready for HEW 101 English Composition I. HEW 011 is a review of writing and editing skills to prepare students for college writing and writing in the workplace. Students should have basic understanding of simple sentence structure; more advanced structure will be covered in class. Students will write paragraphs and short essays. Students will regularly complete assignments that relate reading and writing. 3 class hours.

**HEW 101 English Composition I****3 Credits**

Prerequisites: Successful completion of ENG 031 and HEW 009 (or HEW 011), or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. HEW 009 or 011 must be completed with a grade of C or better. English Composition I is a college level course in writing designed to help students develop their ability to think, to organize, and to express their ideas clearly and effectively. Emphasis is placed on the various forms of expository writing such as process, description, narration, comparison, analysis, persuasion, and argumentation. Numerous in-class writing assignments are required in addition to extended essays written outside of class. Required of all students. 3 class hours.

**HEW 102 English Composition II****3 Credits**

Prerequisites: A grade of C or better in HEW 101 and successful completion of ENG 032 or recentered SAT Verbal score of (R) 420 or greater or appropriate placement test scores. A continued development of writing skills introduced in HEW 101. Students learn how to conduct research and how to base their writing on research. In addition to shorter documented papers, all students are required to write a longer investigative paper that must be fully documented according to MLA standards. 3 class hours.

**HEW 108 Technical Writing****3 Credits**

Prerequisite: A grade of C or better in HEW 101. A course designed to provide students of technology with the communication skills that enable them to compose effective, precise, concise, technical reports. 3 class hours.

**HEW 112 Rhetoric and Research****3 Credits**

Prerequisites: Recentered SAT verbal score of (R)530 or above (23 or above on the ACT) or appropriate placement test scores. Rhetoric and Research is an advanced course in composition that combines rhetorical principles with research writing strategies. Students learn how to incorporate outside sources into their writing and how to employ critical thinking skills to help them evaluate the validity of the sources that they use. A sequence of seven papers is required (a minimum of 7000 words). Writing assignments will vary and increase in complexity from a short, one-page summary to one long, ten to twelve page research paper. Except for in-class writing, all papers must be fully documented according to MLA standards. Students who receive at least a C in the class will not be required to take a second semester of composition. 3 class hours.

**HEW 202 Creative Writing****3 Credits**

Prerequisite: A grade of C or better in HEW 101. A course designed to give students the opportunity for creative expression through one or more of the literary genres - short fiction, novella, poetry, one-act drama, and essay. 3 class hours.

**HEW 210 Advanced Expository Writing****3 Credits**

Prerequisite: A grade of C or better in HEW 101. Advanced Expository Writing is designed to prepare students for the type of writing expected in upper level courses in the major. All writing in the course is based on sources, and students are shown how to incorporate outside material into their own writing. Documentation and the proper use of evidence in research will be emphasized. (Recommended for students transferring to Indiana University.) 3 class hours.

**HHS 101 Medical Terminology****3 Credits**

Prerequisites: None. Addresses basic terminology required of the allied health professional. Presents Greek and Latin prefixes, as well as suffixes, word roots and combining forms. Emphasizes forming a solid foundation for a medical vocabulary including meaning, spelling, and pronunciation. Includes medical abbreviations, signs and symbols.

**HHS 102 Medical Law and Ethics****2 Credits**

Prerequisites: Demonstrated competency in reading through appropriate assessment or successful completion of BSA reading coursework. Presents ethics of medicine and medical practice as well as legal requirements and implications for allied health professions.

**HHS 103 Dosage Calculation****1 Credit**

Prerequisites: Demonstrated competencies in mathematics and reading or ENG 031 - Reading Strategies for College I and MAT 044 - Mathematics. Introduces the mathematical concepts required of the allied health professional to accurately administer medications.

**HHS 104 CPR and Basic Health Awareness****1 Credit**

Prerequisites: None. Provides students with information necessary to recognize the need for one- and two-person cardiopulmonary resuscitation (CPR) as it relates to adults, children and infants. Requires students to safely perform CPR.

**HHS 106 Holistic Concepts and Skills****3 Credits**

Prerequisites: Demonstrated competency in ENG 024 - Introduction to College Writing I, and ENG 031 - Reading Strategies for College I or through appropriate assessment. Introduces the student to the holistic approach in the art and science of healthful living. The course content emphasizes the interrelatedness of the total person—body, mind and spirit—in achieving the goals of therapeutic, rehabilitative and maintenance roles. The student will identify and model methods of personal holistic wellness in society.

**HHS 281-294 Special Topics in Health and Human Services****1-5 Credits**

Prerequisites: Advisor approval. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program areas. Contact chief academic officer for more information.

**HLF 101 French Level I****4 Credits**

An introduction to the French language and culture with emphasis on oral skills. Guided communication tasks, vocabulary building, listening comprehension, phonetics. Use of videos, audio-visual aids, and "less-stress" techniques. Introduction to reading and writing. 4 class hours.

**HLF 103 French Level II****4 Credits**

Prerequisite: HLF 101 or appropriate placement test score. A continuation of HLF 101 with structured oral communication, vocabulary building. Reading of graded and glossed materials, basic grammatical structures, writing. 4 class hours.

<b>HLF 201 French Level III</b>	<b>4 Credits</b>
Prerequisite: HLF 103 or appropriate placement test score Emphasis on reading. Conversation coordinated with reading of cultural text. 4 class hours.	
<b>HLF 203 French Level IV</b>	<b>4 Credits</b>
Prerequisite: HLF 201 or permission of instructor. A continuation of HLF 201 with emphasis on writing. Readings on cultural and contemporary topics. 4 class hours.	
<b>HLS 100 Basic Conversational Spanish</b>	<b>2 Credits</b>
Prerequisites: None. An introduction to basic vocabulary, structures, and cultural information needed for communicating while traveling in Spanish-speaking countries and Spanish-speaking regions of the United States.	
<b>HLS 101 Spanish Level I</b>	<b>4 Credits</b>
An introduction to the Spanish language and culture with emphasis on listening comprehension. Guided communications tasks, vocabulary building. Use of audio-visual aids, videos, language lab, and "less stress" techniques.	
<b>HLS 103 Spanish Level II</b>	<b>4 Credits</b>
A continuation of HLS 101 with structured oral communication, vocabulary building. Emphasis on speaking. Introduction to reading of graded and glossed materials, basic grammatical structures, writing.	
<b>HLS 201 Spanish Level III</b>	<b>4 Credits</b>
Emphasis on reading. Conversation coordinated with reading of cultural text, written, and oral reports. Continued study of grammar structures, vocabulary building.	
<b>HLS 203 Spanish Level IV</b>	<b>4 Credits</b>
A continuation of HLS 201 with emphasis on writing. Cultural and contemporary topics.	
<b>HLT 125 Health Care Systems and Trends</b>	<b>3 Credits</b>
Prerequisites: None. Studies the health care industry emphasizing the systems approach to health care and the current trends facing the industry. Gives special attention to managed care organizations.	
<b>HLT 225 Finance and Budgeting for Health Care</b>	<b>3 Credits</b>
Prerequisites: ACC 101 - Principles of Accounting I. Importance is placed on the development and use of departmental budgets. Financial statements will be used to project future expenses and revenues for an organization and/or department. Emphasizes the reimbursement process for a managed care environment and purchasing procedures.	
<b>HLT 226 Organizational Development in Health Care</b>	<b>3 Credits</b>
Prerequisites: BUS 105 - Principles of Management. Examines organizational structure in health care organizations including traditional structures and re-engineering of the health care industry. Covers staff development, training, job analysis and design and departmental staffing. Discusses medical ethics.	
<b>HMS 101 Introduction to Human Services</b>	<b>3 Credits</b>
Prerequisites: None. Explores the history of human services, career opportunities and the role of the human service worker. Focuses on target populations and community agencies designed to meet the needs of various populations.	
<b>HMS 102 Helping Relationship Techniques</b>	<b>3 Credits</b>
Prerequisites: None. Provides opportunities to increase effectiveness in helping people. Examines the helping process in terms of skills, helping stages and issues involved in a helping relationship. Introduces major theories of helping.	
<b>HMS 103 Interviewing and Assessment</b>	<b>3 Credits</b>
Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, or permission of the program chair. Develops skills in interviewing and provides a base for students to build personal styles. Introduces a variety of assessment approaches and treatment planning.	
<b>HMS 104 Crisis Intervention</b>	<b>3 Credits</b>
Prerequisites: None. Provides beginning training for people who anticipate or are presently working in crisis situations.	
<b>HMS 105 Introduction to Correctional Rehabilitation Services</b>	<b>3 Credits</b>
Prerequisites: None. Introduces the study of crime and criminals and how society is affected.	
<b>HMS 106 Physiology of Aging</b>	<b>3 Credits</b>
Prerequisites: None. Focuses on the physical changes and common pathologies associated with the aging process. Includes the psychological and social implications of changes for human behavior. Focuses on health promotion and disease prevention.	
<b>HMS 107 Human Services Topical Seminar</b>	<b>3 Credits</b>
Prerequisites: Approval of program chair. Discusses topics of current interest in human services. Focuses on special interest projects for students in human services. Utilizes field trips, guest speakers, audio-visual activities and seminars.	



**HMS 108 Psychology of Aging**

**3 Credits**

Prerequisites: None. Covers the major behavioral changes in adulthood and aging. Students explore their own feelings about aging as well as the attitudes of society.

**HMS 109 Understanding Diversity**

**3 Credits**

Prerequisites: None. Encourages multicultural awareness and appreciation of various forms of diversity in the population. Focuses on the major cultural and ethnic population in the United States as well as the social and political issues affecting these groups. Students are encouraged to compare their cultural assumptions with those of people from groups in order to enhance their awareness of multiple points of view.

**HMS 110 Women's Issues**

**3 Credits**

Prerequisites: None. Major issues and social problems related to women through an interdisciplinary analysis of social institutions and movements for social change as they affect women. Focus is on 20th century trends in such institutions as the family, law, medicine, education and other social interaction.

**HMS 112 Recreation for Special Populations**

**3 Credits**

Prerequisites: None. Studies the nature and etiology of impairments including developmental disabilities, mental illness, physical disabilities and geriatrics and their potential impact upon an individual's ability to participate in recreational activities. Explores techniques needed to conduct a recreation program which allows successful participation by an individual with a disability.

**HMS 113 Problems of Substance Abuse in Society**

**3 Credits**

Prerequisites: None. Provides basic information about alcohol and drugs and the laws which pertain to their abuse. Explores current attitudes and practices which pertain to alcohol and drug use, misuse and dependence. Class can be used toward ICAADA certification.

**HMS 114 Social Services in Long-Term Care**

**3 Credits**

Prerequisites: None. Provides practical and useful information about aging and institutionalization. Focuses on the role of social services within the long-term care facility. Indiana State Department of Health State Certification requires 48 hours of attendance.

**HMS 116 Introduction of Mental Retardation/Developmental Disabilities**

**3 Credits**

Prerequisites: None. Provides the participant with background knowledge of the field of mental retardation/developmental disabilities and issues pertinent to the field.

**HMS 120 Health and Aging**

**3 Credits**

Prerequisites: None. Provides an overview of the physical changes and common pathologies associated with the aging process. Focuses on the psychological and social implications of such changes for human behavior. Throughout the course there is a focus on health promotion and disease prevention during the later years.

**HMS 122 Introduction to Residential Treatment**

**3 Credits**

Prerequisites: None. Introduces information, skills and attitudes necessary to become an effective worker in residential treatment. Explores basic developmental needs, planning and use of activities and issues related to the team approach. Discusses and demonstrates observation and recording of behavior.

**HMS 124 Activity Director Basic**

**6 Credits**

Prerequisites: None. Explores the philosophy and investigates the development of therapeutic activity programs for older persons. Focuses on activities which will meet the individual's physical, social and emotional needs.

**HMS 130 Social Aspects of Aging**

**3 Credits**

Prerequisites: None. Covers major theories and patterns of aging in American society. Covers social institutions and cultural factors that affect the aging process.

**HMS 140 Loss and Grief**

**3 Credits**

Prerequisites: None. Provides practical and useful information for everyone who has experienced a loss. Addresses the problems of loss and grief and how to develop coping skills. Students will evaluate their own experiences and attitudes toward loss and grief.

**HMS 201 Internship I**

**4 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, and HMS 103 - Interviewing and Assessment, or program advisor approval. Corequisites: HMS 203 - Internship Seminar I. A field work experience in an approved social, educational, law enforcement, corrections or other community service organization. The student will be supervised by an internship site professional and a college faculty member. A minimum of 180 hours of work experience is required.

**HMS 202 Internship II**

**4 Credits**

Prerequisites: HMS 201 - Internship I, HMS 203 - Internship Seminar I, HMS 205 - Behavioral/Reality Techniques, HMS 206 - Group Process and Skills or program advisor approval. Corequisites: HMS 204 - Internship Seminar II. Continues Internship I. A minimum of 180 hours of work experience is required.

**HMS 203 Internship Seminar I**

**3 Credits**

Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, HMS 103 - Interviewing and Assessment, or program advisor approval. Corequisites: HMS 201 - Internship I. Permits small group discussion and analysis of the human services internship experience. Includes special learning objectives related to the kind of work the student does after completing the program.

- HMS 204 Internship Seminar II** **3 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, HMS 103 - Interviewing and Assessment, HMS 201 - Internship I, HMS 203 - Internship Seminar I or program advisor approval. Corequisites: HMS 202 - Internship II. Continues Internship Seminar I with different learning objectives. Relates objectives to the work the student does after completing the program.
- HMS 205 Behavioral/Reality Techniques** **3 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationships Techniques, HMS 103 - Interviewing and Assessment. Focuses on theories of behavioral and reality approaches. Develops understanding of terms and practical applications of the behavioral and reality approaches used in working with people.
- HMS 206 Group Process and Skills** **3 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing and Assessment, or permission by program chairperson. Studies group dynamics, issues, and behavior. Includes group functioning and leadership, guidelines on working effectively with a co-leader, and practical ways of evaluating the group process.
- HMS 207 Program Planning/Policy Issues** **3 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing and Assessment, or program advisor approval. Concentrates on the components of administration of human service agencies. Addresses practitioner skills needed by an administrator or supervisor. Discusses social policy issues and their impact on human services.
- HMS 208 Treatment Models of Substance Abuse** **3 Credits**  
 Prerequisites: HMS 113 - Problems of Substance Abuse in Society or program advisor approval. Describes the various treatment models used with chemically dependent clients. Discussion centers on intervention and treatment models for chemical dependency and their role in the recovery process. Course can be applied toward hours for ICAADA certification.
- HMS 209 Counseling Issues** **3 Credits**  
 Prerequisites: HMS 113 - Problems of Substance Abuse in Society or program advisor approval. Explores practice strategies for the worker who counsels chemically dependent clients. Course can be applied toward hours for ICAADA certification.
- HMS 210 Co-Dependency** **3 Credits**  
 Prerequisites: HMS 113 - Problems of Substance Abuse in Society or program advisor approval. Presents the definitions of codependency and the issues related to it. Students learn skills and techniques to confront codependent behavior. Course can be applied toward hours for ICAADA certification.
- HMS 215 Juvenile Delinquency** **3 Credits**  
 Prerequisites: None. Provides an overview of the concepts, definitions and measurements of juvenile delinquency. Explores various theories which attempt to explain the causes of delinquency. Looks at the role of environmental influences (peers, gangs, school, drugs, etc.) as they contribute to delinquency. Discusses an overview of the history and philosophy of the juvenile justice system as well as ways to control and treat juvenile delinquents.
- HMS 220 Issues and Ethics in Human Services** **3 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, HMS 103 - Interviewing and Assessment. Provides an introductory overview of the legal and ethical aspects in the field of human services with implications for the human services worker. Included are such topics as liability, confidentiality and privilege, records and rights of clients, due process and equal protection in terms of staff and client, discrimination and witnessing.
- HMS 240 Rehabilitation Process: Probation and Parole** **3 Credits**  
 Prerequisites: HMS 105 - Introduction to Correctional Rehabilitation Services or program advisor approval. Provides an understanding of probation and parole as an integral part of the criminal justice system with special emphasis on current and future trends in this area. Explores the role of community corrections and its impact on the role of probation and parole in our society in view of the increase in the number of offenders.
- HMS 281-294 Special Topics in Human Services** **1-5 Credits**  
 Prerequisites: HMS 101 - Introduction to Human Services, HMS 102 - Helping Relationship Techniques, and HMS 103 - Interviewing and Assessment. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.
- HMT 100 Occupational Safety and Health Administration (OSHA) Regulations** **3 Credits**  
 Prerequisites: None. Provides a study of the U.S. Occupational Safety and Health Administration's (OSHA) regulations which protect workers from exposure to occupational hazards. Concentrates on researching, interpreting, summarizing and applying the OSHA regulations for workers who handle hazardous materials.
- HMT 104 Hazardous Materials Health Effects** **3 Credits**  
 Prerequisites: None. Reviews research conducted to determine the systematic health effects of exposures to chemicals. Includes determination of risk factors, routes of entry of hazardous materials, and their effects on target organs, acute, and chronic effects and control measures.
- HMT 200 Environmental Protection Agency (EPA) Regulations** **3 Credits**  
 Prerequisites: HMT 100 - Occupational Safety and Health Administration (OSHA) Regulations. Provides a detailed study of the U.S. Environmental Protection Agency (EPA) regulations pertaining to hazardous waste management with an emphasis on the requirements of the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response Compensation Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA).

### **HMT 201 Contingency Planning**

**3 Credits**

**Prerequisites:** None. Teaches students to develop an emergency response contingency plan for a facility or community. Includes analyzing the hazards, writing and implementing the contingency plans, training employees for an emergency and evaluating the effectiveness of the contingency plan.

### **HMT 203 Sampling Procedures**

**3 Credits**

**Prerequisites:** HMT 100 - Occupational Safety and Health Administration, HMT 120 - Hazard Communication Standard, and HMT 200 Environmental Protection Agency Regulations. Introduces students to a variety of sampling procedures used in industrial settings and for emergency response. Includes sampling and monitoring devices, industrial hygiene monitoring, water and waste stream monitoring, outside air sampling, soil sampling and radiation. Emphasizes collecting and preserving representative samples, interpreting laboratory results and complying with relevant federal regulations.

### **HMT 205 Department of Transportation (DOT) Regulations**

**3 Credits**

**Prerequisites:** HMT 100 - Occupational Safety and Health Administration. Provides a detailed study of the U.S. Department of Transportation (DOT) regulations. Introduces certain Nuclear Regulatory Commission and Environmental Protection Agency regulations pertinent to hazardous materials transportation. Includes problems and case studies in which students identify and interpret applicable DOT regulations and recommend compliance strategies. Provides practical understanding of DOT issues through interviews with local professionals in hazardous materials handling.

### **HMT 220 Hazardous Materials Recovery, Incineration and Disposal**

**3 Credits**

**Prerequisites:** SCM 111 - Chemistry I. Explains methods of recovery, incineration and/or disposal of hazardous waste. Includes contracting with qualified disposal organizations, obtaining permits and ensuring regulatory compliance of hazardous waste.

### **HOS 101 Sanitation and First Aid**

**3 Credits**

**Prerequisites:** None. Helps students learn basic principles of sanitation and safety in order to maintain a safe and healthy food service environment. Presents the laws and regulations related to safety, fire and sanitation and how to adhere to them in the food service operation.

### **HOS 102 Basic Foods Theory and Skills**

**3 Credits**

**Prerequisites:** None. Students learn the fundamentals of food preparation, service procedures, and sanitation and safety practices in the food service business. They will use proper operation techniques for equipment. This course also provides a background and history of the hospitality industry and introduces the student to the broad spectrum of hospitality/food service organizations and career opportunities. Students will be familiarized with the organizational structure and basic functions of departments.

### **HOS 103 Soups, Stocks and Sauces**

**3 Credits**

**Prerequisites:** None. Concentrates on the four major stocks and the soups that are derived from them. Time will be given to help develop the necessary skills to prepare food using any one of the 14 major cooking methods.

### **HOS 104 Nutrition**

**3 Credits**

**Prerequisites:** None. Introduces the characteristics, functions and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation.

### **HOS 105 Introduction to Baking**

**3 Credits**

**Prerequisites:** None. Presents fundamentals of baking science, terminology, ingredients, weights and measures, yeast goods, pies, cakes, cookies and quick breads and use and care of equipment. Emphasizes sanitation, hygienic work habits and conformity with health regulations.

### **HOS 106 Pantry and Breakfast**

**3 Credits**

**Prerequisites:** HOS 103 - Soups, Stocks and Sauces. Covers the techniques and skills needed in breakfast cookery, as well as insight into the pantry department. Various methods of preparation of eggs, pancakes, waffles and cereals will be discussed. Students will receive instruction in salad preparation, salad dressings, hot and cold sandwich preparation, garnishes and appetizers.

### **HOS 107 Hospitality Computer Systems**

**3 Credits**

**Prerequisites:** None. Provides an overview of the information needs of lodging properties and food service establishments and addresses essential aspects of computer systems and computer based property management systems for both front office and back functions. Focuses on computer-based restaurant management systems for both service-oriented and management-oriented functions.

### **HOS 108 Table Service**

**3 Credits**

**Prerequisites:** None. Provides students with practical knowledge and skills of various types of service operations. The student will gain knowledge and an appreciation of the relationship between "front" and "back" of the house. Emphasis is also placed on management skills needed for bar and dining room management.

### **HOS 109 Hospitality Purchasing**

**2 Credits**

**Prerequisites:** None. Studies in detail major groups of food purchased by quantity buyers including fresh fruits and vegetables, dairy products, meats and seafood, processed products, beverages and non-food items. Outlines the essentials of effective food and beverage control while establishing systems for sale values for food and beverages.

### **HOS 110 Meat Cutting**

**2 Credits**

**Prerequisites:** None. Introduces meat cutting. The student will gain knowledge in the breakdown of beef, pork, poultry, lamb, and veal.



- HOS 111 Yeast Breads I** **3 Credits**  
Prerequisites: HOS 105 - Introduction to Baking. Prepares students to produce a variety of yeast raised breads and rolls using both straight dough and sponge dough methods. Emphasizes proper mixing, fermentation, make-up proofing and baking.
- HOS 112 Yeast Breads II** **3 Credits**  
Prerequisites: HOS 105 - Introduction to Baking. Prepares students to produce a variety of pastries. Emphasizes proper proofing, baking and finishing. Focuses on sanitation, hygienic work habits and conformance with health regulations.
- HOS 113 Baking Science** **3 Credits**  
Prerequisites: HOS 101 - Sanitation and First Aid, HOS 102 - Basic Foods Theory and Skills, HOS 105 - Introduction to Baking. Explores the science of baking and the different reactions that take place based on the ingredients, temperatures and equipment in relation to the final product.
- HOS 114 Hospitality Organization and Administration** **3 Credits**  
Prerequisites: None. Analyzes management's functions and responsibilities as they pertain to the hospitality industry. Appropriate styles of hospitality leadership are covered.
- HOS 115 Diet Therapy** **4 Credits**  
Prerequisites: None. Presents to food services employees or prospective employees of health care institutions knowledge about basic nutrition, therapeutic diets and menu planning; students use knowledge by writing menus. Practicum required as an integral part of the course.
- HOS 116 Dietary Management I** **4 Credits**  
Prerequisites: None. Includes specifications, storage, purchasing and storage, feeding in emergencies, sanitation, and safety in a format designed for food service required as an integral part of the course.
- HOS 117 Dietary Management II** **4 Credits**  
Prerequisites: None. Includes specifications, storage, purchasing and preparation of food, recipe standardization, kitchen designs and delivery systems in format designed for food service employees or employees of health care institutions. Practicum required as an integral part of the course.
- HOS 118 Resident Clinical Assessment Practicum** **4 Credits**  
Prerequisites: None. Introduces the student to the residential care environment and provides the opportunity for the student to learn how to complete residential nutritional status assessments, evaluate resident nutritional needs, complete the required resident evaluation instruments and to write appropriate nutrition care.
- HOS 128 Total Quality Management (TQM) In Restaurant Operations** **3 Credits**  
Prerequisites: None. Provides students with practical knowledge and skills of restaurant operations through TQM. Emphasis is placed on forming an organizational team from traditional "front and back-of-the house" roles. In addition various types of service for food and beverages are taught to demonstrate the versatility of the industry.
- HOS 144 Customer Relations** **3 Credits**  
Prerequisites: None. Examines the key principles of quality service by understanding the service product, the service environment, the tools of service, the service needs of the customer and the application of service principles.
- HOS 150 The Tourism System** **3 Credits**  
Prerequisites: None. Studies travel trends and modes and the social, environmental and economic impacts on the destination area. Emphasis is placed on local, regional and national tourism.
- HOS 151 Introduction to Convention/Meeting Management** **3 Credits**  
Prerequisites: None. Provides a general overview of the convention, exposition and meeting industry, and explores the career options within the industry. Includes an essential understanding of the components involved in the operation of successful meetings and conventions.
- HOS 152 The Mechanics of Meeting Planning** **3 Credits**  
Prerequisites: None. Provides an in-depth study of the meeting and convention industry. Focuses on the operational aspects of the various industry segments and the intra-industry interactions of each. The text is one of the main components used to study for the Certified Meeting Professional (CMP) examination.
- HOS 153 The Development and Management of Attractions** **3 Credits**  
Prerequisites: None. Examines the process of developing visitor attractions and discusses the issues involved in their management. Course content contains information geared toward achieving certain competency objectives.
- HOS 201 Hospitality Organization and Human Resources Management** **3 Credits**  
Prerequisites: None. Teaches the necessary skills for proper recruiting, staffing, training and managing employees at various levels in hospitality careers. Emphasizes the organization's evolutionary and problem solving process.
- HOS 202 Fish and Seafood** **2 Credits**  
Prerequisites: HOS 109 - Hospitality Purchasing. Discusses the importance of fish and seafood in today's market. Includes types and categories of American and imported fish and shellfish and proper buying, storage, preparation and merchandising of fish and seafood. Provides experience in boning, cutting and cooking methods appropriate for seafood.



**HOS 203 Menu, Design, and Layout****2 Credits**

Prerequisites: None. Provides the skills needed to apply the principles of menu planning to various types of facilities and services. This course covers menu layout, selection and development and pricing structures.

**HOS 204 Food and Beverage Cost Control****2 Credits**

Prerequisites: None. Introduces mathematical principles applied to the food service industry and uses skills to complete food related tasks.

**HOS 205 Food and Beverage Cost Control Applications****1 Credit**

Prerequisites: None. Covers the principles and procedures involved in an effective system of room, food, beverage, labor and sales income. Emphasizes the development and use of standards in the calculation of cost.

**HOS 206 Fundamentals of the Catering Business****3 Credits**

Prerequisites: HOS 101 - Sanitation and First Aid and FST 102 - Food Service Equipment Operations. Introduces the fundamentals of owning and operating a small catering business including personal, legal and operational requirements.

**HOS 207 Advanced Baking and Chocolates****3 Credits**

Prerequisites: None. Covers classical French and European desserts. Includes the preparation of goods such as Napoleons, Gateaux St. Honore, petits fours and petits fours sec, ganaches, pastry creams and fillings, sauces, flans and tarts and European sponges. Includes tempering of chocolates, molding and chocolate plastique, preparation of truffles, pastillage and marzipan, short doughs, and meringues. Requires students to submit three pieces from the American Culinary Federation approved individual pastry display category to be judged as a final practical exam.

**HOS 208 Cakes, Icings, and Fillings****3 Credits**

Prerequisites: HOS 105 - Introduction to Baking. Requires students to produce and finish a variety of cakes. Emphasizes application techniques, color coordination, and the flavor and texture of fillings. Practices the techniques of basic cake decorating. Emphasizes sanitation, hygienic work habits and conformance with health regulations.

**HOS 209 Advanced Decorating and Candies****3 Credits**

Prerequisites: HOS 208 - Cakes, Icings, and Fillings. Presents the six different classical styles of cake decorating, the production of gum paste objects which accompany the styles, the use of royal icings and investigates the similarities and differences between the six styles. Students will be required to produce examples of each style and technique, to include two practical examinations.

**HOS 210 Classical Cuisine****3 Credits**

Prerequisites: None. Presents advanced and sophisticated classical culinary methods following the principles and techniques of Escoffier. Studies cooking techniques, timing, presentation, history and terms pertaining to classical foods and menus with emphasis on French cuisines. Provides practical experience in table service operation, kitchen coordination and timing.

**HOS 212 Garde Manger****3 Credits**

Prerequisites: HOS 106 - Pantry and Breakfast. Illustrates basic garde manger principles and the functions and duties of the garde manger department as they relate and integrate with other kitchen operations. Students will focus on introduction to specialty work which includes ice carving, artistic centerpieces and buffet decorations. They will demonstrate equipment and garde manger area planning.

**HOS 213 Classical Pastries****3 Credits**

The student, through hands on application, will learn the preparation and elegant presentation of an abundance of classical and modern pastries and desserts including Tarts, Flans, Gateau Saint-Honore', Black Forest Cake, Chocolate Ganache Cake, Truffles, Paris-Brest, Petits Fours, Rum Balls, Napoleons, Charlotte, Bavarians, Meringues, Chocolate Preparations, Pastillage, Marzipan, and Sugar Work. The student will be instructed in the latest preparation methods, innovative ideas for impressive plate presentations, and techniques that utilize equipment and tools such as silicone baking mats, stencils, towels, and acetate or polyurethane strips, to make high-tech, nouvelle creations.

**HOS 214 Hospitality Law and Security****3 Credits**

Prerequisites: None. Provides an awareness of the rights and responsibilities that the law grants to or imposes upon a hotel keeper. Illustrates the possible consequences of failure to satisfy legal obligations.

**HOS 216 Hospitality Marketing and Group Sales****3 Credits**

Prerequisites: None. Presents a practical understanding of the operating statement and precisely where, how and why the sales effort fits into total earnings and profit. Teaches how to measure and gauge accurately the precise worth of every type of business in advance.

**HOS 221 Catering Administration****3 Credits**

Prerequisites: HOS 101 - Sanitation and First Aid, CUL 110 - Meat Cutting, HOS 204 - Food and Beverage Cost Control, and CUL 202 - Specialized Cuisine. Provides instruction in the fundamentals of catering including the business of supplying food, goods and organized service for public and private functions. Includes staffing, equipment, transportation, contracting, special arrangements, beverage service and menu planning. Demonstrates techniques of setting up banquets and buffets. Requires students to plan, budget, cost, test recipes and formats, plan decor, service and entertainment for catered events.

**HOS 270 Merchandising****3 Credits**

Prerequisites: HOS 112 - Yeast Breads II. Requires students to produce yeast raised and plasticized/sweet dough products for limited retail sale for a 12-week period. Studies merchandising and marketing, planning, production, controlling scrap, cash recaps and all pertinent phases of a retail bake shop operation.

**HOS 280 Co-op/Internship/Externship/Practicum****3 Credits**

Prerequisites: None. Requires students to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**HOS 281-294 Special Topics in Hospitality Administration****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.

**HOS 280 Co-op/Internship/Externship/Practicum****3 Credits**

Prerequisites: None. Requires students to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**HOS 281-294 Special Topics in Hospitality Administration****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.

**HPP 111 Introduction to Philosophy****3 Credits**

This course introduces beginning students to the recurring problems, ideas and thought systems as represented in the literature and lives of great thinkers. 3 class hours.

**HPP 212 Introduction to Ethics****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. This course is a study of the morality of human behavior. In an ongoing discussion of current issues like euthanasia, civil disobedience, abortion, conservation, pacifism, premarital sex, human rights, etc., questions are raised about the meaning of right and wrong, the verification of moral propositions, and the norms of human conduct. 3 class hours.

**HPP 213 Logic****3 Credits**

Prerequisite: Successful completion of ENG 032, or recentered SAT Verbal score of (R)420 or greater, or appropriate placement test scores. A course in formal logic. A study of the principles and methods employed in the appraisal of arguments and methodology, which will lead one's thinking to the accurate attainment of truth. 3 class hours.

**HPP 220 Philosophy of Religion****3 Credits**

A course designed to study the origin and nature of religion. After an initial review of recent philosophical analysis of the religious experience, major world religions (Hinduism, Buddhism, Taoism, Shinto, Judaism, Christianity, Islam, et al.) are examined for their specific content, structure, and spirit. 3 class hours.

**HSS 100 Theatre Appreciation****3 Credits**

An introduction to the understanding and appreciation of the theatre's role in the modern world, including a survey of dramatic structure and analysis and the functions of the actor, director, designer and critic. 3 class hours.

**HSS 148 Interpersonal Communication****3 Credits**

Prerequisites: Successful completion of ENG 031 and HEW 009, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. A course providing theory, actual practice, and criticism for examining and changing human interactions in work, family, and social contexts. The course will focus on perception, message encoding and decoding, feedback, listening skills, causes for communication breakdowns, and other elements affecting interpersonal communication. 3 class hours.

**HSS 201 Voice and Articulation****3 Credits**

Prerequisites: Successful completion of ENG 031 and HEW 009, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. A course designed to assist students to understand the anatomy and function of their own voice mechanism. Emphasis will be placed on breathing, phonation, resonance, and articulation in acceptable American speech. This course will require students to learn the International Phonetic Alphabet and evaluate their own speech characteristics such as quality, rate, pitch, and volume. Designed for education, pre-law, business, broadcast, general studies, theatre and/or speech majors. Required of speech majors at Indiana State University. 3 class hours.

**HSS 202 Oral Interpretation of Literature****3 Credits**

Prerequisites: Successful completion of ENG 031 and HEW 009, or recentered SAT Verbal score of (R)370 or greater, or appropriate placement test scores. A course designed to develop the students' ability to communicate literature to an audience and to augment the students' appreciation of literature. 3 class hours.

**HSY 101 Survey of American History I****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Covers major themes and events in American history from the discovery era to the Civil War and Reconstruction.

**HSY 102 Survey of American History II****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Covers major themes and events in American history from the Civil War and Reconstruction to the present.

**IDS 103 Motors and Motor Controls****3 Credits**

Prerequisites: TEC 113 - Basic Electricity. Provides a complete understanding of all types of electric motors, extending from the small shaded pole fan motors to the large three-phase motors. Includes motor theory magnetism and how it affects motor rotation. Provides in-depth study of motor starting components and protective devices for motor circuits. Includes heat dissipation from a motor, motor slippage, how motors are wired to obtain different speeds, and capacitors and how they affect a motor circuit.

**IDS 104 Fluid Power Basics****3 Credits**

Corequisites: MAT 050 - Basic Algebra or advisor approval. Introduces the student to fluid power principles and components. Teaches basic circuit design, symbols and schematic diagrams to build a foundation for career work in fluid power technology.

**IDS 114 Introductory Welding****3 Credits**

Prerequisites: None. Provides basic skills and fundamental knowledge in oxyacetylene and shielded metal welding for maintenance welders, auto service and body technicians and individuals in the mining industry. Emphasizes industry welding practices and detailed study of techniques used in all weld positions. Covers brazing and flame cutting and electrode selection and uses. Emphasizes safe practices in welding, cutting and shielded metal arc.

**ILT 217 Wastewater Analysis****3 Credits**

Prerequisites: Advisor approval. Deals with the chemical and biological analysis of wastewater. Major pollutants of water are determined and quantified. The wastewater treatment steps are discussed to determine ideal lab sampling locations. Various wastewater tests such as BOD's, COD's, sedimentation rates and biological examinations are performed.

**IMT 107 Preventive Maintenance****3 Credits**

Prerequisites: Advisor approval. Focuses on detecting and correcting potential trouble spots and scheduling routine inspections with checklists. Studies five essential forms of preventive maintenance: equipment record, checklist, inspection schedule, inspection report and equipment cost record.

**IMT 108 Measurements and Calibration****3 Credits**

Prerequisites: Advisor approval. TEC 113 - Basic Electricity. Provides instruction in the purpose, function and application of oscilloscopes and related instruments.

**IMT 110 Coupling and Alignment****3 Credits**

Prerequisites: None. Introduces the concepts of correct alignment of industrial process machinery. Provides instruction in troubleshooting and repair of coupled machines.

**IMT 111 Rigging****3 Credits**

Prerequisites: None. Introduces the proper techniques of moving industrial machinery and equipment. Emphasis is placed on proper installation, inspection, safety requirements and load calculation.

**IMT 112 Sheet Metal Layout and Design****3 Credits**

Prerequisites: None. Examines the procedures used to layout sheet metal components. Presents the proper use of hand and machine tools to fabricate sheet metal projects.

**IMT 120 Metallurgy Fundamentals****3 Credits**

Prerequisites: None. Studies the fundamentals of thermodynamics and reactions occurring in metals subjected to various kinds of heat treatment. Includes classification and properties of metals, chemical and physical metallurgy, theory of alloys, heat treatment principles as applied to ferrous and non-ferrous materials, test to determine uses, heat treatment for steels, special steels, and cast iron, powder metallurgy, and use of gas and electric furnaces and their controls.

**IMT 122 Electrical Wiring Fundamentals****3 Credits**

Prerequisites: None. Covers National Electrical Code and its relationship to residential and commercial wiring. Includes mechanical installation of hardware, metering equipment, lights, switches and design. Discusses tool use and materials selection.

**IMT 201 Fluid Power Systems (Hydraulics/Pneumatics)****3 Credits**

Prerequisites: IDS 104 - Fluid Power Basics. Introduces the student to more complex fluid power circuits. Requires students to design, analyze and troubleshoot complex circuits using schematic diagrams. Studies detailed construction of typical industrial fluid power components. Teaches students to disassemble and evaluate fluid power components in the lab.

**IMT 203 Machine Maintenance/Installation****3 Credits**

Prerequisites: None. Examines procedures for the removal, repair and installation of machine components. Analyzes methods of installation, lubrication practices and maintenance procedures for industrial machinery. Presents techniques for calibration and repair of electro-mechanical devices and practice in computations pertaining to industrial machinery.

**IMT 205 Programmable Controllers 1****3 Credits**

Prerequisites: Program advisor approval. Introduces the basic theory, operation and programming of programmable controllers. Includes pilot control devices, circuit layouts, industrial schematics, relay logic, reduced voltage starters and multi-speed controllers. Covers static control systems. Demonstrates with programming examples, set-up examples and troubleshooting as well as PLC timing, counting, arithmetic and logic.



**IMT 206 Programmable Controllers II****3 Credits**

Prerequisites: IMT 205 - Programmable Controllers I. Provides an in-depth study of programmable controllers. Emphasizes program language installation, maintenance and applications.

**IMT 207 Electrical Circuits****3 Credits**

Prerequisites: IDS 103 - Motors and Motor Controls, MAT 121 - Geometry-Trigonometry or advisor approval, TEC - 113 Basic Electricity. Provides fundamentals of single- and three-phase alternating current including parallel circuits, resistance, inductance, capacitance, switching, fusing, current requirements, transformer applications, and motors and motor controls. Covers the basics of mechanical and electrical installations, emphasizes tool use and material selection and electrical troubleshooting diagnosis and repair.

**IMT 210 Pumps****3 Credits**

Prerequisites: IDS 104 - Fluid Power Basics. Covers the construction and operation of centrifugal, reciprocating and rotary pumps and their components. Includes procedures of troubleshooting, installation and maintenance.

**IMT 211 Advanced Industrial Mechanics I****3 Credits**

Prerequisites: IDS 103 - Motors and Motor Controls, IMT 122 - Electrical Wiring Fundamentals, IMT 201 - Fluid Power Systems, IMT 203 - Machine Maintenance/Installation, and PHY 101 - Physics I. Examines the operation and design of mechanical systems including belt drives, chain drives, gear boxes, bearings and variable speed drives. Includes the proper use of portable power tools and the study of different materials.

**IMT 212 Advanced Industrial Mechanics II****3 Credits**

Prerequisites: IMT 211 - Advanced Industrial Mechanics I. Continues Advanced Industrial Mechanics I with troubleshooting of the various mechanical drive systems. Includes the study of lubrication, seals, industrial pumps, steam distribution systems and HVAC systems.

**IMT 213 Pipe Fitting Basics****3 Credits**

Prerequisites: IDS 102 - Introduction to Print Reading. Acquaints the maintenance technician with a basic foundation and pipe fitting skills necessary to make repairs or new pipe layout. Includes determination of the type and quantity of material needed to complete a task and joining those materials in the proper manner with a minimum of supervision.

**IMT 215 Power Plant Mechanics****3 Credits**

Prerequisites: IMT 207 - Electrical Circuits, MAT 111 - Intermediate Algebra. Presents the basic elements in the power plant: their function, their mode of operation and the mechanics, with emphasis on construction and repair. The student selects, troubleshoots and repairs power plant mechanics.

**IVY 070 College and Life Success Skills****3 Credits**

Prerequisites: Minimum entry assessment at the ENG 024 - Introduction to College Writing I (ASSET 32-37, COMPASS 23-51) and ENG 031 - Reading Strategies for College I level (ASSET 32-35, COMPASS 44-65). Enhances success in college by assisting students in obtaining skills necessary to reach their educational, career and life objectives. Topics include time management, memory techniques, reading techniques, note taking, test taking, problem solving and decision making, group interaction and resource utilization.

**IVY 071 Study Skills Survey****1 Credit**

Prerequisites: Minimum entry assessment at the ENG 024 - Introduction to College Writing I (ASSET 32-37, COMPASS 23-51) and ENG 031 - Reading Strategies for College I level (ASSET 32-35, COMPASS 44-65). Increases success in college by assisting students in obtaining skills necessary to reach their educational objectives. Students will learn effective strategies for studying for tests, dealing with test anxiety, answering a variety of types of test questions (multiple choice, true/false, matching, short answer and essay) and analyzing test results. Students also will learn time management techniques, memory strategies, textbook reading and notetaking methods.

**IVY 072 Research Strategies****1 Credit**

Prerequisites: Minimum entry assessment at the ENG 024 - Introduction to College Writing I (ASSET 32-37, COMPASS 23-51) and ENG 031 - Reading Strategies for College I level (ASSET 32-35, COMPASS 44-65). Increases success in college by assisting students in obtaining skills necessary to reach their educational objectives, specifically in the area of information literacy. In this course students will learn how to use a variety of research tools including CD-ROM databases, the Internet and other research tools. Students will learn how to use the MLA or APA documentation when summarizing, paraphrasing and quoting resources. Students will also be exposed to some of the basic issues concerning information integrity.

**IVY 073 Styles of Learning****1 Credit**

Prerequisites: Minimum entry assessment at the ENG 024 - Introduction to College Writing I (ASSET 32-37, COMPASS 23-51) and ENG 031 - Reading Strategies for College I level (ASSET 32-35, COMPASS 44-65). Increases success in college by assisting students in obtaining skills necessary to reach their educational objectives. The course presents a holistic, integrated, principle-centered approach for solving academic challenges. This course is a step-by-step learning process which provides effective tools that help students adapt to change.

**IVY 100 Prior Learning Assessment****3 Credits**

Prerequisites: None. Provides students an opportunity to document and present college level learning which has resulted from work/life experience. At the conclusion of this course students will submit a complete learning portfolio which consists of a request for college credits along with a detailed description of college level competencies for each course and documentation to support their request.

**LEG 101 Introduction to Paralegal Studies****3 Credits**

Prerequisites: Must be program-ready in English (both reading and writing). Introduces the beginning student to the American legal system, substantive and procedural law, and the role of the paralegal in the legal profession. Topics include professional ethics, legal analysis and research, trial and appellate courts, civil and criminal trial procedure and brief surveys of the substantive law of torts, contracts, property and criminal law. Projects include an IRAC brief, library research of a statute and related case and drafting a summons, complaint and answer.

### **LEG 102 Legal Research**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies. Introduces the student to library research resources including case reporters, digests, statutes and administrative codes, registers, law encyclopedias and other secondary authorities. Students are instructed on effective research strategies, proper citation form and Shepard's updating service. The final research and writing project is a memorandum of law.

### **LEG 103 Civil Procedure**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies. The first of two semesters devoted to the study of the Indiana trial rules, small claims court rules and local rules. (The second semester is LEG 202 - Advanced Trial Procedures.) Topics include filing requirements, the rules regarding service of process and calculation of deadlines. Projects include drafting summonses, complaints, answers and various motions.

### **LEG 104 Torts**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies. A survey of the common law of negligence, strict liability (including products liability), intentional torts against persons and property, various defenses and insurance issues in tort law. Emphasis is on tort litigation practice, especially personal injury law. Projects include drafting tort complaints and discovery documents.

### **LEG 105 Business Associations**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies. Introduces the student to the distinguishing characteristics of sole proprietorships, general and limited partnerships, limited liability companies and corporations. Topics include the formal requirements for establishing and doing business in each of these types of business organizations in Indiana, respective advantages and disadvantages of each type, relevant tax law issues, a brief introduction to the elements of a contract, common-law doctrines of employment law and agency law. Students will review many sample documents and will draft a general partnership agreement and a certificate of assumed business name.

### **LEG 106 Torts and Claims Investigation**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies. Prepares the student to investigate tort claims. Instruction includes a brief survey of tort law and evidence law, proper interviewing techniques, information-gathering methods and resources and investigative file preparation. Special attention is given to the importance of knowing the elements of possible causes of action and the laws of evidence at the investigative stage of a case. Students will review sample complaints and forms. Projects include some legal research, preparing a demand letter, a complaint, an interview questionnaire, consent forms, letters requesting records and reports and a witness statement.

### **LEG 107 Contracts and Commercial Law**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies. Examines the nature of contracts under both the common law and UCC Article 2 including contract formation, the Statute of Frauds, remedies, warranties and assignment law. The student will also be introduced to agency law, employment law, negotiable instruments law (UCC Article 3), secured transactions law (UCC Article 9) and the important differences among various types of business organizations. Students will examine and critique actual contracts and will have the opportunity to review Article 3 and Article 9 documents. Written projects include critiquing a contract, drafting a contract and drafting a complaint for breach of contract.

### **LEG 108 Property Law**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies. A survey of the law of real and personal property in Indiana. Introduces the student to the different types of property, how ownership is acquired, estates in land, concurrent ownership, deeds, legal descriptions, easements, taxes and other encumbrances on title, title examination and insurance, the BFP, real estate sales and closings, mortgages and security interests, foreclosures, landlord-tenant law, gifts, trusts, bailments and lost property. Students will examine numerous documents and will learn to draft some, including a warranty deed, a mechanics lien and a complaint for foreclosure or eviction.

### **LEG 202 Advanced Trial Procedures**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 103 - Civil Procedures. The study of Indiana trial rules pertaining to actual trial. Topics include the discovery process and discovery tools, litigation support -- including organization and retrieval of trial documents -- techniques in preparing witnesses for trial and preparing jury instructions. The main project is compiling a trial notebook.

### **LEG 203 Law Office Management and Technology**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 102 - Legal Research and Writing, CIS 101 - Introduction to Microcomputers. Acquaints the student with various law office-specific software packages and services and their application in the law office. Through hands-on computer experience students work with spreadsheets, database management, time keeping and filing, docket control, litigation support and legal research on the Internet and legal research computer services such as Westlaw and Lexis.

### **LEG 204 Legal Writing**

**3 Credits**

Prerequisites: Should be taken in the last semester before graduation. Develops further the legal writing skills learned in Legal Research and Writing and in the procedural law and substantive law courses. Gives renewed emphasis to the importance of precision and accuracy in preparing correspondence, briefs and memos, litigation documents and transactional documents. To demonstrate mastery of these skills students prepare and compile into a portfolio examples of their best work in each category.

### **LEG 209 Family Law**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 108 - Property Law. An introduction to the statutory laws of marriage, dissolution, custody (including UCCIA), visitation, support (including URESA), adoption and guardianship of minors in Indiana. Students will review many pleadings and intake forms and will draft a divorce petition, a financial statement and a summary decree with child-support worksheet.

### **LEG 210 Wills, Trusts, and Probate**

**3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 108 - Property Law. An introduction to the Indiana statutory law of wills, intestate succession, estate administration, death taxes (state and federal), trusts, power of attorney and guardianship. Students will be able to examine many actual probate documents and forms and will draft a will, a petition to open an estate and an inheritance tax return.

**LEG 211 Criminal Law****3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 103 - Civil Procedures. A theoretical and practical survey of the statutory law of crimes, evidence and criminal procedures in Indiana including an examination of sample pleadings and motions. Topics include the elements of specific crimes, formal procedures for pre-trial to post-trial, actual courtroom strategies and the practical concerns involved in both the prosecution and defense of criminal cases.

**LEG 212 Bankruptcy Law****3 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 108 - Property Law. A survey of the Federal Bankruptcy Act, including the different kinds of bankruptcy proceedings. Emphasizes how to accumulate the debtor's financial information, compile initial schedules, prepare the list of creditors, collect and organize data for the first meeting of creditors, complete proofs of claim and pursue certain creditors' rights. The main written project is preparing the forms for a Chapter 13 bankruptcy case.

**LEG 280 Internship****1-6 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 102 - Legal Research and Writing, LEG 103 - Civil Procedures, LEG 106 - Torts and Claims Investigation, CIS 101 - Introduction to Microcomputers. An opportunity for the intermediate paralegal student to acquire valuable field experience by working gratis 120 hours (at least eight hours per week) in a local law office under attorney supervision. The student keeps a journal and prepares a report of his or her experience at the end of the semester.

**LEG 281-294 Special Topics in Paralegal Studies****1-5 Credits**

Prerequisites: LEG 101 - Introduction to Paralegal Studies, LEG 102 - Legal Research and Writing, LEG 103 - Civil Procedures, LEG 106 - Torts and Claims Investigation, LEG 202 - Advanced Trial Procedures and at least two paralegal electives. Provides students with the opportunity to attend seminars, workshops and other instructional activities and/or do independent study on topics of interest that reinforce the concepts taught in or relevant to Paralegal Studies. Requires the supervision and approval of the Paralegal Program Chair.

**MAT 044 Mathematics****3 Credits**

Prerequisites: Demonstrated competency on the numerical skills section of the assessment (ASSET 32-40, COMPASS 19-43). Reviews fractions and decimals. Concentrates on ratio, proportion, percents, measurement, signed numbers, equations and their applications.

**MAT 050 Basic Algebra****3 Credits**

Prerequisites: Successful completion of MAT 044 - Mathematics or demonstrated competency through appropriate assessment (numerical skills section - ASSET 41+, COMPASS 44-100), (pre-algebra section - ASSET 23-38, COMPASS 0-40). Reviews signed numbers and simple equation solving. Concentrates on integer exponents, scientific notation, linear and literal equations, polynomial operations, polynomial factoring, and graphing skills in preparation for MAT 111 - Intermediate Algebra or MAT 112 - Functional Mathematics.

**MAT 111 Intermediate Algebra****3 Credits**

Prerequisites: A scaled score of 40 or higher on the Elementary Algebra section of the ASSET assessment, or a COMPASS score of 41-65 on the Algebra section, or successful completion of MAT 050 - Basic Algebra. Reviews algebraic terminology and laws, basic operations with real numbers and polynomials, scientific notation, linear equations and graphs, and factoring algebraic expressions. Provides an in-depth study of rational expressions, systems of linear equations, radicals, radical equations and quadratic equations. Introduces functions and function notation.

**MAT 112 Functional Mathematics****3 Credits**

Prerequisites: A scaled score of 40 or higher on the Elementary Algebra section of the ASSET assessment, or a COMPASS score of 41-65 on the Algebra section, or successful completion of MAT 050 - Basic Algebra. Through real-world approaches, presents mathematical concepts of measurement, proportion, geometry, equation solving and statistics.

**MAT 115 Statistics****3 Credits**

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment, or a COMPASS score of 66 or higher on the Algebra section, or successful completion of MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra. Provides study in the collection, interpretation and presentation of descriptive and inferential statistics including measures of central tendency, probability, binomial and normal distributions, hypothesis testing of one- and two-sample populations, confidence intervals, chi-square testing, correlation, data description and graphical representations.

**MAT 121 Geometry-Trigonometry****3 Credits**

Prerequisites: A raw score of 13 or higher on the Geometry section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra or MAT 112 - Functional Mathematics. Provides study in geometry and trigonometry including polygons, similar figures, geometric solids, properties of circles, constructions, right triangles, angle measurements in radians and degrees, trigonometric functions and their application to right triangles, Pythagorean theorem, laws of sine and cosine, graphing of trigonometric functions, trigonometric identities, vectors and coordinate conversions.

**MAT 131 Algebra/Trigonometry I****3 Credits**

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra. Provides study in algebra, including functions, exponential rules, linear equations, radicals, vectors, right triangle trigonometry, oblique triangles, graphs of sine and cosine functions.

**MAT 132 Algebra/Trigonometry II****3 Credits**

Prerequisites: Demonstrated mathematics competency through test-out or successful completion of MAT 131 - Algebra/Trigonometry I. Continues study in algebra and trigonometry including systems of equations, graphing of trigonometric functions, trigonometric equations, rectangular and polar coordinates, complex numbers, exponential and logarithmic functions and conics.



**MAT 133 College Algebra****4 Credits**

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra. Presents an in-depth study of polynomials, radicals, rational expressions, inequalities, complex numbers, functions, matrices, graphs and conics.

**MAT 134 Trigonometry****2 Credits**

Prerequisites: A scaled score of 41 or higher on the Intermediate Algebra section of the ASSET assessment, or successful completion of MAT 111 - Intermediate Algebra. Presents an in-depth study of vectors, right triangle trigonometry, oblique triangles, graphs of trigonometric functions and an introduction to complex numbers.

**MAT 135 Finite Math****3 Credits**

Prerequisites: A scaled score of 41 or higher on the College Algebra section of the ASSET assessment, or a COMPASS score of 46 or higher on the College Algebra section, or successful completion of MAT 111 - Intermediate Algebra. Surveys solving and graphing linear inequalities, elementary set theory, matrices and their applications, linear programming and elementary probability.

**MAT 201 Brief Calculus****3 Credits**

Prerequisites: A COMPASS score of 46 or higher on the Trigonometry section (ASSET cannot be used), or MAT 111 - Intermediate Algebra and one of the following: MAT 121 Geometry-Trigonometry, MAT 132 - Algebra/Trigonometry II, MAT 133 - College Algebra or MAT 135 - Finite Math. Studies the fundamental concepts and operations of calculus including the study of functions, limits, continuity, derivatives, points-of-inflection, first-derivative test, concavity, second-derivative test, optimization, antiderivatives, integration by substitution, integration by parts, and elementary applications of a definite integral.

**MEA 102 First Aid and CPR****2 Credits**

Prerequisites: None. Provides students with information necessary to recognize emergency situations, know the proper course of action with different types of emergencies, and apply appropriate first aid including CPR.

**MEA 113 Pharmacology****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Discusses the most common medications in current use with emphasis on classifications, uses, routes of administration, dosages, interactions, incompatibilities and side effects. Emphasizes the 50 most commonly prescribed drugs listed in Pharmacy Times. Addresses special precautions, legal aspects, patient education, and preparation and administration of medications.

**MEA 114 Medical Assisting Laboratory Techniques****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Prepares student to perform various basic laboratory procedures including preparation of patients, collecting and preparing appropriate specimens and expected norms of laboratory test results. Includes current safety and quality control standards.

**MEA 120 Medical Assisting Clinical Externship****3 Credits**

Prerequisites: Program advisor approval. Provides opportunities to observe, perform and discuss various clinical competencies under supervision, with learning experiences obtained in selected physician's offices, clinics or hospitals. Reviews the following basic principles of psychology as they apply to the medical assistant: developmental stages of the life cycle; hereditary, cultural and environmental influences on behavior; mental health; and applied psychology.

**MEA 121 Medical Assisting Administrative Externship****3 Credits**

Prerequisites: Program advisor approval. Provides opportunities to observe, perform and discuss various administrative competencies under supervision, with learning experiences obtained in selected physicians' offices, clinics or hospitals.

**MEA 131 Medical Financial Management with Computer Applications****3 Credits**

Prerequisites: None. Provides instruction in medical office financial administration, bookkeeping and materials management.

**MEA 135 Medical Word Processing/Transcription****3 Credits**

Prerequisites: Keyboard 25 WPM. Develops skills and knowledge of medical dictation, machine transcription and use of word processors and typewriters. Includes typing and transcription of medical reports, terminology and correspondence.

**MEA 136 Office Administration with Computer Applications****3 Credits**

Prerequisites: Demonstration of computer keyboard skills through test out on speed, accuracy and formatting or OAD 019 - Keyboarding. Provides a basic understanding of the administrative duties and responsibilities pertinent to medical offices. Includes instruction in medical correspondence and records, case histories of patients, filing, telephone procedures, appointment scheduling, receptionist duties and processing mail. Familiarizes the student with computer applications in the health care setting. Provides the student with basics of operations and application of computer usage within the health care provider office. Includes simulated data entry for patient records, appointment scheduling and daysheet transactions.

**MEA 137 Medical Insurance and Basic Coding with Computer Applications****3 Credits**

Prerequisites: HHS 101 - Medical Terminology and demonstration of computer keyboard skills through test out on speed, accuracy and formatting or OAD 019 - Keyboarding. Provides an overview of medical insurance programs and the skills needed in handling insurance forms, CPT and ICD-9-CM Coding and insurance reports as applied to the medical office. Includes simulated computer data entry for patient records, procedure and diagnostic codes, insurance processing and electronic transmission of claims.



<b>MEA 138 Clinical I</b> Prerequisites or Corequisites: HHS 101 - Medical Terminology, currently CPR trained (Health Care Provider) or HHS 104 - CPR and Basic Health Awareness and MEA advisor approval. Presents theory and lab related to clinical aspects of the medical office. Provides students with information necessary to recognize emergency situations, know the proper course of action with different types of emergencies and apply appropriate first aid. Allows students to become familiar with clinical duties and to gain the skills needed to perform them. Includes vital signs, asepsis, sterilization, nutrition and treatment room procedures.	<b>3 Credits</b>
<b>MEA 139 Clinical II</b> Prerequisites or Corequisites: MEA 138 - Clinical I and MEA advisor approval. Presents a continuation of clinical skills and theory and allows the student to become familiar with the following clinical duties: medications, EKGs, X-ray, physical therapy, respiratory testing and other technical skills needed to assist the physician.	<b>3 Credits</b>
<b>MEA 164 Human Energies</b> Prerequisites: None. Discusses communication skills, including verbal and nonverbal, body language and intuition. Helps the student develop an understanding of body circuits and energy transference.	<b>3 Credits</b>
<b>MEA 169 Administrative Training</b> Prerequisites: None. Provides a basic understanding of the administrative responsibilities pertinent to massage therapy. Addresses computer usage, marketing and office skills that will allow students to create, promote and maintain their own businesses.	<b>2 Credits</b>
<b>MEA 203 Disease Conditions</b> Prerequisites: None. Presents the basic concepts of diseases, their course, and functional disturbances as they relate to body systems. Includes the precipitating risk factors and appropriate methods of patient education regarding various disease processes.	<b>3 Credits</b>
<b>MEA 209 Electrocardiograph - Basic Technique</b> Corequisites: MEA 210 - Introduction to EKG Interpretation. Presents the basic reasons for prescribing an electrocardiograph and the theory involved. The physiological principles involved are the basis for proper techniques that will be practiced by the students until they demonstrate competency with both the theory and required skills in doing a prescribed electrocardiograph.	<b>1 Credit</b>
<b>MEA 210 Introduction to EKG Interpretation</b> Prerequisites: None. Includes anatomy and physiology of the cardiovascular system and recognition of basic arrhythmias. Measurement of the EKG complex will be taught with the emphasis placed upon determining heart rates and rhythms.	<b>2 Credits</b>
<b>MEA 206 Advanced Electrocardiograph Interpretation</b> Prerequisites: MEA 210 - Introduction to EKG Interpretation. Includes anatomy and physiology of the cardiovascular system, interpretation of rhythm strips and 12 lead EKGs and the cardiovascular drugs associated with arrhythmias.	<b>3 Credits</b>
<b>MEA 212 Phlebotomy</b> Prerequisites: None - Medical Assisting Laboratory Techniques or program advisor approval. Presents the principles and practices of laboratory specimen collection and processing. Also covers medical terminology, infection control, patient identification, anatomy and physiology, anticoagulants, blood collection, specimen processing and interpersonal skills.	<b>3 Credits</b>
<b>MEA 213 Advanced Insurance Coding</b> Prerequisites: MEA 137 - Medical Insurance or program advisor approval. Introduces the medical office administrator to codes necessary to bill insurance claims and provides experience in coding claim forms using the correct combination of codes to maximize reimbursement.	<b>3 Credits</b>
<b>MEA 215 Advanced Medical Terminology</b> Prerequisites: HHS 101 - Medical Terminology. Includes more detailed and advanced study of the derivatives of medical terms, symbols, and signs. Presents an in-depth study of the correlation between medical vocabulary and the application of those terms to the anatomy and physiology of the body, related diseases, conditions and treatment.	<b>3 Credits</b>
<b>MEA 224 Hospital Coding</b> Prerequisites: MEA 213 - Advanced Insurance Coding or advisor approval. Builds on the comprehensive coding skills acquired through prerequisite course MEA 213. Introduces additional instruction in diagnostic related groups (DRG's) and medical record extraction. Provides discussion, observation and performance opportunities in related insurance coding competencies. Both classroom and clinical sites are used to provide realistic experiences under supervision. External sites include physicians' offices, clinics and hospitals.	<b>3 Credits</b>
<b>MEA 225 Insurance Coding Externship</b> Prerequisites: Advisor approval. Provides opportunities to observe, perform, and discuss various insurance related competencies under supervision, with learning experience obtained in selected physicians' offices, clinics, or hospitals.	<b>3 Credits</b>
<b>MEA 226 Medical Assisting - Advanced Clinical Procedures</b> Prerequisites: MEA 138, 139 - Clinical Theory and MEA 134 - Clinical Skills Lab. Advances the knowledge and skills enabling the student to assist in clinical management in the medical and surgical specialties. Addresses health services in the community which are directed toward prevention of disease and maintenance and restoration of health.	<b>3 Credits</b>
<b>MEA 227 Advanced Administrative Procedures</b> Prerequisites: MEA 136 - Medical Office Administration. Provides an in-depth study of various influences on office functions concerning organization and management of a physician's office. Includes government and professional sources for consultation.	<b>3 Credits</b>

<b>MEA 233 Health Unit Coordinator</b> Prerequisites: None. Prepares students to provide reception and clerical support to the nursing unit to facilitate the delivery of nursing care. Students will gain skills in communication methods, problem solving, transcription processes, classification of orders and appropriate documentation procedures.	<b>5 Credits</b>
<b>MEA 234 Phlebotomy Externship</b> Prerequisites: MEA 212 - Phlebotomy. Provides the opportunity to discuss and perform phlebotomy procedures under supervision with learning experiences obtained in selected laboratories, physicians' offices, clinics or hospitals.	<b>3 Credits</b>
<b>MEA 235 Advanced Transcription</b> Prerequisites: MEA 135 - Medical Wordprocessing/Transcription. Improves accuracy and speed of the medical transcriptionist utilizing various formats for medical transcription.	<b>3 Credits</b>
<b>MEA 260 Advanced Acupressure</b> Prerequisites: MEA 165 - Acupressure Theory and Methods. Focuses on the advanced theory and practice of acupressure and Asian medicine.	<b>3 Credits</b>
<b>MEA 261 Reflexology</b> Prerequisites: None. Teaches the different aspects and points on the foot and hand relating to other parts of the body. Can be integrated into massage practice or can be an independent approach. Includes an introduction to the musculo-skeletal, cardiovascular and nervous systems and their relationship to the zones on the feet. Systems disorders including the sensory and the endocrine are also identified and discussed. Identifies the relationship of the five zones of the foot and the areas of the spine with spinal nerve enervation and intervention.	<b>3 Credits</b>
<b>MEA 262 Sports Therapy</b> Prerequisites: None. Presents an advanced course in sports massage designed to train the therapist techniques for therapy on athletes. Includes post/pre-event techniques with increased stretching and deep muscle release.	<b>3 Credits</b>
<b>MEA 281-294 Special Topics in Medical Assistant</b> Prerequisites: Advisor approval. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.	<b>1-5 Credits</b>
<b>MEA 299 CMA Comprehensive Review</b> Prerequisites: None. Corequisites: Advisor approval. Reviews the entire medical assisting program in preparation for the CMA registry examination. Administration, clinical and general information are covered. Testing procedures are addressed. Emphasis is placed on job readiness and placement. The course earns continuing education units for graduate CMAs to fulfill their certification renewal requirements.	<b>3 Credits</b>
<b>MFG 280 Co-op/Internship</b> Prerequisites: Students must have completed a minimum of 30 credits toward their degrees with at least a 3.0 cumulative grade point average. Gives students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.	<b>3 Credits</b>
<b>MIT 102 Introduction to Print Reading</b> Prerequisites: None. Provides an introduction to reading and interpreting machine shop symbols, welding blueprints and working drawings used in trades and crafts. Focuses on dimension, shape, fabrication and assembly. Applies basic mathematics to the solution of print and performance problems.	<b>3 Credits</b>
<b>MIT 106 Introduction to Workplace Safety I</b> Prerequisites: Advisor approval. Introduces the proper use of hand and power tools and measuring instruments in carpentry, blacksmithing, rigging and equipment, machinist and general shop. Includes structural steel and fabricating terms.	<b>3 Credits</b>
<b>MIT 260 Problem Solving Techniques and Teamwork</b> Prerequisites: Minimum 45 credits of general education and Manufacturing coursework completed or advisor approval. This course is generally part of the capstone experience for students who are ready to graduate from the Manufacturing and Industrial Technology program. The course should draw from a broad spectrum of the student's prior course work. Teamwork, communication skills, problem solving, quality, fundamental concepts of complexity theory relating to systems operations, etc. are relevant topics.	<b>3 Credits</b>
<b>MKT 101 Principles of Marketing</b> Prerequisites: None. Introduces the marketing role in society and how it affects the marketing strategy. Emphasizes the marketing mix, product planning, and the effects of the demographic dimension on the consumer market.	<b>3 Credits</b>
<b>MKT 102 Principles of Selling</b> Prerequisites: None. Provides an overview of the selling process. Includes the psychology of selling and develops skills through a series of selling situations.	<b>3 Credits</b>
<b>MKT 104 Promotion Management</b> Prerequisites: None. Presents management planning and oversight techniques for effectively communicating the results of the marketing strategy to customers. Provides a comprehensive overview of promotion methods as they interact in the marketing mix, which includes price, channel of distribution and product. Everything the company does has potential for promotional impact for the customers, which therefore requires effective management to pursue its marketing objectives in the target market.	<b>3 Credits</b>

**MKT 110 Consumer Behavior****3 Credits**

Prerequisites or Corequisites: MKT 101 - Principles of Marketing. Study of the basic principles of consumer behavior which offers insight into the buyer-seller relationship. Application of theories from psychology, social psychology, and economics are examined. Course examines concepts that have implications for marketing management decisions.

**MKT 201 Introduction to Market Research****3 Credits**

Prerequisites: MKT 101 - Principles of Marketing and MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra. Presents basic research methods entailing procedures, questionnaire design, data analysis, and effectively communicating research results.

**MKT 202 Logistics/Purchasing Control****3 Credits**

Prerequisites: MKT 101 - Principles of Marketing or BUS 101 - Introduction to Business. Introduces students to the framework of logistics, the logistics environment, customer services and materials management. Introduces material resources planning (MRP) and just-in-time (JIT) principles.

**MKT 204 Marketing Management****3 Credits**

Prerequisites: Departmental approval. Focuses on the analysis, implementation and control of marketing strategy. Emphasizes the major decisions management faces in its effort to harmonize the objectives and resources of the organization with the needs and opportunities of the marketplace.

**MKT 205 Principles of Insurance****3 Credits**

Prerequisites: None. Introduces the risks faced by business firms including property, liability and personal losses, and how they are handled. Presents insurance contracts and their uses. Includes an overview of life insurance, health and pension insurance, public policy, government regulations, and social insurance.

**MKT 207 Public Relations****3 Credits**

Prerequisites: None. Provides broad coverage of the public relations field and acquaints students with the role of effective internal and external public relations in business and industry. Examines the goals and benefits of public relations, the tools of the public relations practitioner, and the principles and trends of the field.

**MKT 219 Field Study/Cooperative Education****4 Credits**

Prerequisites: None. Provides students the opportunity to work at a job site that is specifically related to their career objectives. Provides field experience within the framework of actual work experience in marketing.

**MKT 220 Principles of Retailing****3 Credits**

Prerequisites: MKT 101 - Principles of Marketing and MAT 112 - Functional Mathematics or MAT 111 - Intermediate Algebra. Studies retailing concepts and practices including retail merchandise planning, buying, pricing, promotion and control in established retail operations. Attention is given to managerial and operational skills.

**MKT 240 Internet Marketing****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers, MKT 101 - Principles of Marketing. Provides an introduction to the Internet as a marketing strategy including product, pricing, communication and distribution considerations. Profiles Internet users and market segments and reviews the Internet as a primary and secondary marketing research tool as well as a relationship marketing tool. Incorporates marketing implementation and planning strategies. Discusses legal and ethical issues in Internet marketing.

**MTT 101 Introduction to Machining****3 Credits**

Prerequisites: None. Instructs students in shop safety, industrial terminology, tools and machine tooling, measurement and layout. Includes laboratory exercises to begin project completion of turning, milling and grinding applications.

**MTT 102 Turning Processes I****3 Credits**

Prerequisites: None. Instructs students in shop safety and industrial terminology and provides laboratory experience toward project completion on the conventional lathe.

**MTT 103 Milling Processes I****3 Credits**

Prerequisites: None. Instructs students in shop safety and industrial terminology and provides laboratory experience towards project completion on the vertical and/or horizontal milling machine.

**MTT 104 Machinery Handbook****3 Credits**

Prerequisites: Equivalent of MTT 101 - Introduction to Machining and its prerequisites as determined by advisor. Explores the intent and use of the machinery handbook. Applies principles and concepts in the machinery handbook to projects in the industry.

**MTT 108 Metrology****3 Credits**

Prerequisites: None. Instructs a student in mechanical precision measurement techniques and applications. Provides instruction and laboratory experiences in surface plate inspections, optical comparators, hardness testing and coordinate measuring machines (CMM). Discusses calibration and measurement system analysis.

**MTT 204 Abrasive Processes I****3 Credits**

Prerequisites: TEC 101 - Manufacturing Processes. Provides shop safety, industrial terminology and laboratory experiences on abrasive processing machines. Includes superabrasives technology processes.



### **MTT 208 CNC Programming I**

**3 Credits**

Prerequisites: MAT 121 - Geometry-Trigonometry or MAT 131 - Algebra/Trigonometry I or advisor approval. Introduces two and three axis CNC machining. Develops the theory of programming in the classroom with application of the program accomplished on industry-type machines. Studies terminology of coordinates, cutter paths, angle cutting, and linear and circular interpolation.

### **MTT 209 CNC Programming II**

**3 Credits**

Prerequisites: MTT 208 - CNC Programming I or advisor approval. Expands on MTT 208, providing further study in computer-aided numerical control programming. Focuses on canned cycles, loops, macros, thread cycles, drilling and pocket milling cycles.

### **MTT 220 CAD/CAM I**

**3 Credits**

Prerequisites: MTT 208 - CNC Programming I, DCT 113 - Intermediate CAD, DSN 220 - Advanced CAD, or equivalent as determined by advisor. Covers the development of various machine routines. Introduces computer-assisted machining as it relates to automated milling and machining centers. Emphasizes proper programming techniques, control familiarity, file data and machining functions.

### **MTT 221 CAD/CAM II**

**3 Credits**

Prerequisites: MTT 220 - CAD/CAM I or equivalent as determined by advisor. Covers the development of 3-D shapes and the codes necessary to produce parts. Requires students to design a new product or modify an existing design. Includes creating surface curves. Focuses on creating tool paths for complex 3D surfaces.

### **MTT 240 Machining Operations I**

**3 Credits**

Prerequisites: MTT 101 - Introduction to Machining, TEC 101 - Manufacturing Processes. Continues MTT 101 - Introduction to Machining. Students will gain additional lab experience on the drill press, lathe, milling machine, surface grinder, o.d. grinder, tool post grinder and jig grinder. Measurement, layout and inspection are performed at the advanced level. Classroom activities concentrate on cutting tool terminology, screw thread terminology, taper calculations and the Machinery Handbook. Heat treating is also covered.

### **MTT 241 Machining Operations II**

**3 Credits**

Prerequisites: MTT 101 - Introduction to Machining and MTT 102 - Turning Processes I. Emphasizes basic tool construction and close tolerance machining. Using the various types of equipment found in the laboratory, students rough machine, heat treat and precision grind detailed parts to tolerance of within .0005" consistently. Classroom activities concentrate on precision setup, inspection work and basic tool construction. Experience is also gained in basic conversational CNC programming.

### **MTT 242 CNC Machining**

**3 Credits**

Prerequisites: MTT 208 - CNC Programming I, MTT 241 - Machining Operations II, DSN 103 - CAD Fundamentals, DCT 227 - Geometric Dimensioning and Tolerancing. Introduces and instructs the student in all aspects of Computer Numeric Control (CNC) machining. The student will program, set up and operate CNC mills and lathes utilizing CAD/CAM for fixture and part design and verification. Students continually improve programming, set up and cycle time efficiency. Students inspect and document the quality of production parts and compare their performance with an industry benchmark for each project.

### **MTT 243 Tool & Die Making I**

**3 Credits**

Prerequisites: MTT 101 - Introduction to Machining, MTT 102 - Turning Processes I, MTT 103 - Milling Processes I, MTT 208 - CNC Programming I. Focuses on construction of a two-state progressive die that incorporates interchangeable details. Each student manufactures a die that incorporates the parting principle and performs the following operations: forming, piercing and parting. In addition, lecture material covers computations on blank lengths and diameters, blanking and piercing operations, drawing, progression and timing. Experience is gained in CNC machining and progressive die troubleshooting.

### **MTT 250 Introduction to Machining Practicum**

**3 Credits**

Concurrent with MTT 101. Provides machining laboratory and application activities to coordinate with the classroom and laboratory learning for MTT 101. Students work on advanced project completion using a variety of shop equipment in a systems approach.

### **MTT 251 Machining Operations I Practicum**

**3 Credits**

Concurrent with MTT 240. Provides machining laboratory and application activities to coordinate with the classroom and laboratory learning for MTT 240. Students work on advanced project completion using a variety of shop equipment in a systems approach.

### **MTT 252 Machining Operations II Practicum**

**3 Credits**

Concurrent with MTT 241. Provides machining laboratory and application activities to coordinate with the classroom and laboratory learning for MTT 241. Students work on advanced project completion using a variety of shop equipment in a systems approach.

### **MTT 253 CNC Machining Practicum**

**3 Credits**

Concurrent with MTT 242. Provides machining laboratory and application activities to coordinate with the classroom and laboratory learning for MTT 242. Students work on advanced project completion using a variety of shop equipment in a systems approach.

### **MUS 118 Music Appreciation**

**3 Credits**

An introductory course to music stressing the art of listening with discussions of prominent composers, their works, and their styles. No previous knowledge of music required. 3 class hours.

### **NUR 150 Nursing and Universal Needs**

**4 Credits**

Prerequisites: Admission to program. Corequisites: NUR 151 - Nursing and Universal Needs Practicum. Provides fundamental facts, concepts, principles and rationales necessary to meet universal healthcare needs. Introduces the five components of the nursing process and the roles of the associate degree nurse.

**NUR 151 Nursing and Universal Needs Practicum****4 Credits**

Prerequisites: Admission to program. Corequisites: NUR 150 - Nursing and Universal Needs. Simulated and actual patient care situations provide an opportunity to develop interpersonal and psychomotor skills. Initiates a beginning level of assessing, analyzing, planning, implementing and evaluating therapeutic measures in meeting basic universal healthcare needs. Provides an opportunity in the laboratory and clinical setting to explore the role of the associate degree nurse.

**NUR 152 Nursing Related to Health Deviation I****5 Credits**

Prerequisites: NUR 150 - Nursing and Universal Needs and NUR 151 - Nursing and Universal Needs Practicum. Corequisites: NUR 153 - Nursing Related to Health Deviation I Practicum. Defines the role of the associate degree nurse in assisting clients experiencing health deviations related to nutrition/elimination, rest/activity, safety and homeostasis. The nursing process is utilized to promote, maintain and restore health or support death with dignity in the adult client.

**NUR 153 Nursing Related to Health Deviation I Practicum****5 Credits**

Prerequisites: NUR 150 - Nursing and Universal Needs and NUR 151 - Nursing and Universal Needs Practicum. Corequisites: NUR 152 - Nursing Related to Health Deviation I. Provides experience that enables the student to progress in the role of the associate degree nurse when providing care to adult clients experiencing health deviations. The nursing process guides the application of scientific facts, concepts, principles and rationales in the delivery of nursing care. Psychomotor skills and appropriate therapeutic communication are emphasized.

**NUR 154 Pharmacotherapeutics****2 Credits**

Prerequisites: Admission to program. Introduces the student to the fundamental principles of drug action, the classification of drugs and the appropriate nursing actions to achieve the desired outcomes of therapy. The nursing process as a framework for learning is integrated throughout the course.

**NUR 248 Transition to ASN Nursing****5 Credits**

Prerequisites: Admission to program, ANP 101 - Anatomy and Physiology I, ANP 102 - Anatomy and Physiology II, ENG 111 - English Composition, MAT 111 - Intermediate Algebra, PSY 101 - Introduction to Psychology, current Indiana LPN license, and official transcript from PN program. Examines the role of the associate degree nurse. Identifies components of the ASN program philosophy. Reviews the facts, concepts and principles underlying the nursing process. Laboratory and clinical experience is provided to review basic nursing skills and assist the student in identifying appropriate nursing responses to health deviation needs.

**NUR 250 Nursing Related to Health Deviation II****5 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation Needs I and NUR 153 - Nursing Related to Health Deviation Needs I Practicum. Corequisites: NUR 251 - Nursing Related to Health Deviation II Practicum. Defines the role of the associate degree nurse in assisting clients experiencing health deviations related to oxygenation, social interaction/solitude and continued health deviations of safety and homeostasis. The nursing process with emphasis on planning, intervention and evaluation is utilized to promote, maintain and restore health or support death with dignity in the adult client. Leadership skills and advanced therapeutic communication are also emphasized.

**NUR 251 Nursing Related to Health Deviation II Practicum****5 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation I and NUR 153 - Nursing Related to Health Deviation I Practicum. Corequisites: NUR 250 - Nursing Related to Health Deviation II. Provides experiences that allow the student to further refine the role of the associate degree nurse in providing care to clients experiencing health deviations. The nursing process guides the application of scientific facts, concepts and principles in the delivery of nursing care. Leadership skills and advanced therapeutic communication are also applied.

**NUR 252 Nursing Related to Developmental Needs****4 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation I and NUR 153 - Nursing Related to Health Deviation I Practicum. Corequisites: NUR 253 - Nursing Related to Developmental Needs Practicum. Identifies the role of the associate degree nurse in assisting clients to meet their developmental needs which includes the maintenance of conditions to support life processes and maturation. Utilizes the nursing process with emphasis on planning, implementation and evaluation. It will be utilized to evaluate therapeutic measures that promote, maintain, and restore health or support death with dignity.

**NUR 253 Nursing Related to Developmental Needs Practicum****4 Credits**

Prerequisites: NUR 152 - Nursing Related to Health Deviation I and NUR 153 - Nursing Related to Health Deviation I Practicum. Corequisites: NUR 252 - Nursing Related to Developmental Needs. Provides experiences that allow the student to further refine the role of the associate degree nurse when providing care to the childbearing and childbearing family experiencing developmental needs which includes the maintenance of conditions to support life processes and maturation. The nursing process guides the application of scientific facts, concepts, principles and rationales in the delivery of nursing care. Decision making and appropriate therapeutic communication are also emphasized.

**NUR 254 Professional Nursing Issues****2 Credits**

Prerequisites: Successful completion of previous semester. Examines issues and nursing's responsibility to meet changing needs of persons in their environment. Historical aspects, current developments, future trends, improvement of nursing practice, legal/ethical considerations, and personal/professional growth are integrated into the examination of the role of the associate degree nurse.

**NUR 260 Understanding Pathophysiology****3 Credits**

Prerequisites: None. Provides basic and easy to understand information about pathophysiological mechanisms and manifestations of disease. Builds on the concepts mastered in anatomy and physiology and nursing theory courses.

**OAD 019 Keyboarding****3 Credits**

Prerequisites: None. Provides students with the fundamentals of keyboarding using the touch method. Emphasizes mastery of the keyboard, development of formatting skills and development of speed and accuracy.

**OAD 029 Speed and Accuracy Development**

**1 Credit**

Prerequisites: OAD 019 - Keyboarding. Designed to diagnose individual keyboarding speed and accuracy skills and bring those skills to an employable level.

**OAD 103 Word Processing Applications**

**3 Credits**

Prerequisites: Typing proficiency of 30 GWAM and basic formatting, or OAD advisor approval. Introduces the concepts of word processing systems. Offers hands-on experience in the operation of a specific word processing software package.

**OAD 108 Shorthand/Notetaking I**

**3 Credits**

Prerequisites: None. This course introduces basic principles of a note-taking system. Emphasis is placed on note-taking techniques, legibility, and mastery of the basic vocabulary. Dictation and transcription of material is included.

**OAD 110 Presentation Graphics**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or equivalent. Provides "hands-on" experience and familiarizes students with specific advanced design and layout techniques and practical applications of business presentations.

**OAD 114 Desktop Publishing**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or equivalent. Emphasizes the production of publication-quality documents. Attention is given to design and layout principles and production techniques. Fonts, graphics and page composition are integrated into camera-ready documents using computer software and hardware.

**OAD 116 Essentials of Business Correspondence**

**3 Credits**

Prerequisites: ENG 025 - Introduction to College Writing II. An intensive, competency-based business correspondence course that involves grammar, word usage, pronunciation, punctuation, proofreading, spelling, vocabulary building and other language skills that are essential to good workplace communication.

**OAD 119 Document Processing**

**3 Credits**

Prerequisites: Entry level proficiency of 35 gwpw and basic formatting. Emphasis is placed on increasing speed, improving accuracy, developing and applying formatting skills, applying communication and language arts skills and developing document production techniques.

**OAD 121 Office Procedures**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Prepares the student to understand and carry out responsibilities assigned in a business office. Topics include telephone techniques, office equipment, travel and conference arrangements, professional development, research techniques, time and stress management and business ethics.

**OAD 207 Integrated Applications**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers or equivalent experience. Explores the advanced features of an integrated office software package using word processing, spreadsheets, databases and presentation graphics.

**OAD 211 Medical Transcription**

**3 Credits**

Prerequisites: HHS 101 - Medical Terminology and OAD 119 - Document Processing with an entry-level speed of 40 GWAM with a 5 error limit. Develops skills and knowledge of medical transcription utilizing medical reports, terminology and correspondence.

**OAD 214 Multimedia Design**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Continues the production of publication-quality documents. Attention is given to design and layout principles and production techniques. Color and editing graphics and photographs will be introduced. Students will also apply their design skills to preparing documents for electronic publishing on the World Wide Web.

**OAD 215 Legal Transcription**

**3 Credits**

Prerequisites: OAD 119 - Document Processing with an entry-level speed of 40 GWAM with a 5 error limit. Provides hands-on training in formatting legal correspondence and court documents in the basic areas of law. Students will learn specialized rules of punctuation, terminology and standards for legal documents. In a laboratory setting students will learn how to use a transcribing machine to produce legal documents from tape dictation.

**OAD 216 Business Communications**

**3 Credits**

Prerequisites: HEW 111 - English Composition, CIS 101 - Introduction to Microcomputers. Emphasizes analysis of business communication environments—cultural, organizational, technological, international and interpersonal—and the use of communications standards to direct the choice of oral and written communication methods and techniques. It includes practice in writing a variety of messages used to communicate in business and industry with an emphasis on the potential impact of the message on the receiver as a basis for planning and delivering effective business communications.

**OAD 217 Problem Solving for Computer Users**

**3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Introduces the organization, structure and functions necessary for managing and maintaining information systems within a business organization. Presents the student with basic computer system concepts such as file and resource management, device drivers, file structures, hard disk organization, software installation, upgrading and maintenance and fundamental data security techniques. These concepts will be incorporated into practical applications.



**OAD 218 Spreadsheets****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Provides an in-depth understanding of worksheet design, charting, what-if analysis, worksheet database creation and manipulation and OLE. Knowledge and use of a spreadsheet will be applied to various business applications. Integration of spreadsheets in other applications will be addressed.

**OAD 219 Advanced Document Processing****3 Credits**

Prerequisites: Entry level proficiency of 45 wpm and formatting. Emphasis is on a high degree of competence in an office-like environment processing documents on a personal computer using an up-to-date software package.

**OAD 220 Records and Database Management****3 Credits**

Prerequisites: CIS 101 - Introduction to Microcomputers. Focuses on the management and control of documents from creation to disposition using manual, automated, and electronic media. Examines filing procedures, records management personnel, and equipment. Uses database software to create, modify, query, and report information from a database.

**OAD 221 Office Administration and Supervision****3 Credits**

Prerequisites: OAD 216 - Business Communications. Completion of minimum of 45 credits toward degree. Emphasizes management of office functions. Key topics include personnel, team building, ergonomics, project management and leadership styles. Case studies and role playing projects are included. Students will also complete the program outcomes assessment tool.

**OAD 226 Advanced Electronic Spreadsheets****3 Credits**

Prerequisites: OAD 218 - Spreadsheets. Continues the study of electronic spreadsheets in business. Emphasizes the advanced application of electronic spreadsheets.

**OAD 280 Co-op/Internship/Externship/Practicum****1-6 Credits**

Prerequisites: OAD 216 - Business Communications. Completion of minimum of 45 program credits toward degree or advisor approval. Students gain on-the-job experience while earning college credits towards an associate degree.

**OAD 281-294 Special Topics in Office Administration****1-3 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.

**PHL 071 Critical Thinking****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency on the writing section (ASSET 41+, COMPASS 70-100) and the reading section (ASSET 41+, COMPASS 80-100) of the assessment. Assists students in developing critical thinking strategies with academic and workplace applications.

**PHL 101 Introduction to Philosophy****3 Credits**

Prerequisites: ENG 111 - English Composition. Examines fundamental questions of philosophy such as the foundations of morality, skepticism and knowledge, the nature of mind, free will and determinism, and the existence of God. Emphasizes the evaluation of arguments and analysis of concepts.

**PHL 102 Introduction to Ethics****3 Credits**

Prerequisites: ENG 111 - English Composition. Examines major theories of ethics, theoretical issues, moral problems and issues and our responsibility to future generations.

**PHO 106 Studio Practices****3 Credits**

Prerequisites: None. Introduces studio work in black and white photography using continuous light sources. Covers basic set-up techniques and lighting methods for a variety of subject matter. Includes practice with photo flood lamps and quartz lamps, both floods and spot and a variety of equipment used to modify light.

**PHY 100 Technical Physics****4 Credits**

Prerequisites: MAT 111 - Intermediate Algebra. Pre or Corequisites: MAT 121 - Geometry-Trigonometry or MAT 131 - Algebra/Trigonometry I. Introduces the concepts and applications of physics. Leads students to develop an integrated understanding of the theory and applications of measuring (or unit) systems, scalars, vectors, force, work, rates, energy, momentum, power, force transformers (simple machines), vibrations and waves, and time constants. Emphasizes understanding concepts, factual knowledge, computation and application.

**PNU 114 Nursing Issues and Trends****1 Credit**

Prerequisites: Admission to the PN program. Focuses on nursing history, ethical and legal issues. Examines the organizational patterns and roles of the practical nurse in the health care delivery system. Emphasizes life-long learning.

**PNU 121 Introduction to Nursing I****4 Credits**

Prerequisites: Admission to the PN program. Corequisites: ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science. Introduces the role of the practical nurse as a member of the health care team. The nursing process is the basis for providing care within the well-being/illness continuum. Focuses on the application of basic nursing skills essential in meeting biological, psychosocial, cultural and spiritual needs of individuals in preventive, therapeutic and rehabilitative environments.

**PNU 122 Introduction to Nursing II****6 Credits**

Prerequisites: PNU 121 - Introduction to Nursing I. Focuses on the progression of learning nursing skills. Emphasizes application of safe nursing practice in the clinical setting. Introduces drug administration, dosage calculations and mental health concepts.

### **PNU 123 Pharmacology**

**3 Credits**

**Prerequisites:** Admission to the PN program; approval of program chair. Studies pharmacological agents, including classifications, actions, side effects, interactions and nursing implications.

### **PNU 126 Integrated Life Science**

**5 Credits**

**Prerequisites:** Successful completion of ASSET and/or basic skills. Approval of program chair. Examines physical/chemical factors that enable man to maintain homeostasis of the internal environment. Emphasizes anatomy and physiology. Integrates concepts of chemistry, nutrition and microbiology.

### **PNU 127 Care of the Adult I**

**5 Credits**

**Prerequisites:** PNU 122 - Introduction to Nursing II and ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science. Focuses on the application of the nursing process in understanding the pathophysiology and nursing care of clients with circulatory, ventilation and immunity dysfunctions. Emphasizes meeting biological, psychosocial, cultural and spiritual needs in selected environments. Theory is applied in clinical component.

### **PNU 128 Care of the Adult II**

**5 Credits**

**Prerequisites:** PNU 122 - Introduction to Nursing II and ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science. Focuses on the application of the nursing process in understanding the pathophysiology and nursing care of clients with nutrition, elimination, reproduction and hormone dysfunctions. Emphasis will be on meeting biological, psychosocial, cultural and spiritual needs in selected environments. Theory is applied in clinical component.

### **PNU 129 Care of the Adult III**

**5 Credits**

**Prerequisites:** PNU 122 - Introduction to Nursing II and ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science. Focuses on the application of the nursing process in understanding the pathophysiology and nursing care of clients with mobility, neurological, sensory and dermatological dysfunctions. Emphasis will be on meeting biological, psychosocial, cultural and spiritual needs in selected environments. Theory is applied in clinical component.

### **PNU 130 Nursing Care of the Older Adult**

**5 Credits**

**Prerequisites:** ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science, and PNU 122 - Introduction to Nursing II. Focuses on the application of the nursing process in meeting biological, psychosocial, cultural and spiritual needs of older clients in selected environments. Preventive, therapeutic, rehabilitative care, and in support of death with dignity are major components. Theory is applied in the clinical setting.

### **PNU 131 Nursing Care of the Childbearing Family**

**6 Credits**

**Prerequisites:** ANP 102 - Anatomy and Physiology II or PNU 126 - Integrated Life Science, and PNU 122 - Introduction to Nursing II. Emphasis is on the normal reproductive cycle and normal growth and development of the child within the wellness/illness continuum. Examines conditions and selected interventions based on the nursing process, in providing preventive, therapeutic and rehabilitative care for the mother and child. The role of the practical nurse is identified in providing holistic care to the childbearing family within the clinical setting.

### **POL 101 Introduction to American Government and Politics**

**3 Credits**

**Prerequisites:** Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100). Introduces the foundations, nature and dynamics of American government and politics including constitutional foundations, civil liberties and civil rights, federalism, political parties, public opinion, interest groups, media, nominations, campaigns, elections, the presidency, the judiciary, congress, bureaucracies and public policy.

### **PST 120 First Responder**

**3 Credits**

**Prerequisites:** None. Provides students with information necessary to recognize emergency situations, know the proper course of action with different types of emergencies and apply appropriate first aid. Addresses handling of victims of hazardous materials accidents. Covers CPR, including one and two rescuer, and adult, infant and child resuscitation.

### **PST 121 Risk Management**

**3 Credits**

**Prerequisites:** None. Introduces occupational safety and health standards and codes with emphasis on applications of codes to typical work situations and MSDS requirements. Includes emergency first aid, safety protection, eye protection and chemicals handling. Covers employer and employee rights as well as violations, citations, penalties, variances, appeals and record keeping.

### **PST 220 Incident Management Systems**

**3 Credits**

**Prerequisites:** Advisor approval. Emphasizes the command and control of major department operations at an advanced level, linking operations and safety. Areas of study include incident management systems, pre-incident, size-up, command systems, sectoring functions, staging, safety officer, command post, communications, news media and computer aided resources. Utilizes simulated incidents requiring the applications of appropriate solutions.

### **PST 221 Computer Design and Planning**

**3 Credits**

**Prerequisites:** TEC 104 - Computer Fundamentals for Technology. Focuses on the needs and uses of the computer in public safety. Includes computer aided dispatch, advanced levels of cameo, I-Chiefs, computer-aided design of equipment, generation of incident reports, application of computers for the budgetary process, computer-aided resource and materials, maintenance, test records of vehicles and the GIS program.

**PST 280 Co-op/Internship****3 Credits**

Prerequisites: Students must have completed a minimum of 30 credits toward their degrees with at least a 3.0 cumulative grade point average. Gives students the opportunity to work at a job site that is specifically related to their career objectives. Provides on-the-job experience while earning credit toward an associate degree.

**PST 281-294 Special Topics in Public Safety****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area. Contact chief academic officer for more information.

**RAD 101 Orientation and Nursing in X-Ray Technology****4 Credits**

Prerequisites: Acceptance into the program through appropriate assessment or successful completion of college entry courses. Covers seven units. Introduces radiology and prepares students for entry into a clinical setting.

**RAD 102 Principles of Radiographic Exposures I****2 Credits**

Prerequisites: RAD 107 - Radiation Physics. Presents individual and group characteristics needed to produce the ideal radiograph. Includes knowledge of interchangeability of mAs, kVp, film/screen combinations, distance and grids. Covers factors and considerations needed for pediatric techniques, calibration, heat unit calculation and technique chart construction.

**RAD 103 Radiographic Positioning I****3 Credits**

Prerequisites: Acceptance into program through appropriate assessment or successful completion of pre-college courses, CIS 101 - Introduction to Microcomputers and any other previous radiography courses. Correlates positioning, terminology, techniques and film critique with the examinations of chest, abdomen, upper extremity, upper/lower GI tracts and urinary tract.

**RAD 104 X-Ray Clinical Education I****4 Credits**

Prerequisites: Concurrent enrollment with RAD 103 - Radiographic Positioning I, completion of CIS 101 and other applicable courses. Follows category 2 of the competency lab model, which tests proficiency of skills from categories 1 and 2. Includes supervised clinical experience.

**RAD 105 Radiographic Positioning II****3 Credits**

Prerequisites: Successful completion of RAD 103 - Radiographic Positioning I, RAD 104 - X-Ray Clinical Education I and any other previous radiology course. Correlates all previous material related to anatomy and positioning, covers the areas of lower extremities, spine and thorax and advances knowledge in ethics and quality assurance.

**RAD 106 X-Ray Clinical Education II****4 Credits**

Prerequisites: RAD 103 - Radiographic Positioning I, RAD 104 - X-Ray Clinical Education I, Concurrent with RAD 105 - Radiographic Positioning II and all previous required radiology courses. Includes supervised clinical experience, utilizes Category 2 of the competency model and tests proficiency of skills from Categories 1 and 2.

**RAD 107 Radiation Physics****3 Credits**

Prerequisites: MAT 111 - Intermediate Algebra. Introduces physics as utilized in the production of X-rays. Includes laws of physics pertaining to atomic structure, chemical properties and reactions and electrical circuitry. Covers equipment and methods of generation and measurement of electricity.

**RAD 109 Imaging Techniques****2 Credits**

Prerequisites: Successful completion of any other previous radiology courses. Covers theories, principles and demonstrations of current imaging modalities.

**RAD 201 Radiographic Positioning III****2 Credits**

Prerequisites: RAD 103 - Radiographic Positioning I, RAD 105 - Radiographic Positioning II, and all other previous radiology courses. This course correlates positioning terminology and techniques, film critique, with exams of Category 2 of the competency models and testing skills from Category 1 and 2.

**RAD 202 X-Ray Clinical Education III****4 Credits**

Prerequisites: RAD 103 - Radiographic Positioning I, RAD 105 - Radiographic Positioning II, RAD 106 - X-Ray Clinical Education II, Concurrent with RAD 201 - Radiographic Positioning III, and all other previous program courses. Introduces Category 3 of the Competency Model, proficiency testing over Categories 1 and 2 and testing over Category 3.

**RAD 203 X-Ray Clinical Education IV****4 Credits**

Prerequisites: RAD 202 - X-Ray Clinical Education III, RAD 201 - Radiographic Positioning III, RAD 106 - X-Ray Clinical Education II, RAD 105 - Radiographic Positioning II, RAD 103 - Radiographic Positioning I, and concurrent with RAD 209 - Radiographic Positioning IV. Introduces Category 4 of the Competency Model in lab proficiency testing of skills from Categories 1, 2, 3 and proficiency in Category 4.

**RAD 204 X-Ray Clinical Education V****4 Credits**

Prerequisites: RAD 203 - X-Ray Clinical Education IV, RAD 201 - Radiographic Positioning III, RAD 106 - X-Ray Clinical Education II, RAD 105 - Radiographic Positioning II and RAD 103 - Radiographic Positioning I. Includes final competency testing for students who have not completed clinicals 1-4. Continues maintenance over all categories. Includes clinical experience.

**RAD 205 Pathology for Radiologic Technology****2 Credits**

Prerequisites: Successful completion of previous radiology courses. Examines basic concepts concerning disease, its causes and the resulting changes as viewed radiographically. Emphasizes needed technical changes to produce optimal radiographs from correlations to patient symptoms.



### **RAD 206 Radiobiology and Radiation Protection**

**3 Credits**

Prerequisites: Successful completion of previous radiology courses. Covers theories and principles of the effects of ionizing radiation upon living tissues. Includes dosages, measurements, DNA structure and function and cellular radio sensitivity.

### **RAD 208 Principles of Radiographic Exposures II**

**2 Credits**

Prerequisites: RAD 102 - Principles of Radiographic Exposures I. Continues RAD 102 - Principles of Radiographic Exposure I. Explains photo timing and its relationship to manual techniques. Associates kVp and mAs with the quality and quantity of radiation. Covers standard darkroom procedure, automatic processing and quality assurance.

### **RAD 209 Radiographic Positioning IV**

**3 Credits**

Prerequisites: RAD 201 - Radiographic Positioning III and all other previous radiology courses. Covers all positions involving radiographic examinations.

### **RAD 299 General Examination Review**

**3 Credits**

Prerequisites: None. Reviews content of program, emphasizing anatomy, physics, exposure principles, positioning and radiation safety. Simulated exams prepare the student for the American Registry of Radiologic Technologist Examination.

### **RES 121 Introduction to Respiratory Care**

**6 Credits**

Prerequisites: Program Chair approval; demonstrated competency in reading, writing, computation and basic science skills through appropriate assessment or successful completion of BSA program coursework. Corequisites: RES 122 - Therapeutic Modalities. Presents an introduction to respiratory care including a brief history of the profession; equipment cleaning and sterilization techniques; patient assessment techniques and isolation techniques. Includes medical records documentation, gas analyzers, introduction and application of therapeutic modalities including oxygen therapy, aerosol and humidity therapy, airway maintenance, hyperinflation therapy and an overview of ethical practice and safety.

### **RES 122 Therapeutic Modalities**

**3 Credits**

Prerequisites: Program Chair approval; demonstrated competency in reading, writing, computation and basic science skills through appropriate assessment or successful completion of BSA program coursework. Presents medicinal aerosol therapy and respiratory pharmacology; hyperinflation therapies; introduction to pulmonary rehabilitation and home care. Introduces basic bedside pulmonary function testing and development of respiratory care plans. Presents selected aspects of ethical and legal respiratory practice.

### **RES 123 Cardiopulmonary Physiology**

**3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I. Corequisites: ANP 102 - Anatomy and Physiology II. Presents the cardiopulmonary system including ventilation, perfusion and gas exchange; introduces interpretation and application of arterial blood gases, acid-base regulation and physiologic monitoring.

### **RES 124 Clinical Practicum I**

**3 Credits**

Prerequisites: CPR Certification - Course C AHA, Health Care Provider (HCP) Level. Corequisites: RES 121 - Introduction to Respiratory Care. Introduces the student to the hospital environment. Exposes the student to various hospitals and respiratory care departments, patient charts, patient identification and communication within the hospital. Provides supervised experience in oxygen therapy, hyperinflation therapy, humidity/aerosol therapy and charting.

### **RES 125 Critical Care I**

**3 Credits**

Prerequisites: RES 122 - Therapeutic Modalities. Introduction to the respiratory care of the critically ill patient. Presents arterial blood gas collection; analysis and interpretation; and basic medical laboratory data. Introduces concepts and techniques of critical respiratory care of adults and pediatrics; includes establishment and maintenance of artificial airways, application of adult and pediatric mechanical ventilators and related cardio-pulmonary monitoring equipment.

### **RES 126 Clinical Medicine I**

**3 Credits**

Prerequisites: RES 123 - Cardiopulmonary Physiology. Introduces etiology, symptomatology, diagnosis, therapeutics and prognosis of selected pulmonary diseases.

### **RES 127 Clinical Practicum II**

**3 Credits**

Prerequisites: RES 121 - Introduction to Respiratory Care, CPR - Certification Course C and RES 124 - Clinical Practicum I. Provides supervised experience in selected therapeutic modalities. Includes an introduction to chest physiotherapy, medicinal aerosol therapy, intermittent positive pressure breathing and ultrasonic therapy. Requires continuing certification in CPR.

### **RES 128 Clinical Practicum III**

**9 Credits**

Prerequisites: RES 125 - Critical Care I, CPR Certification - HCP Level, RES 126 - Clinical Medicine I, RES 127 - Clinical Practicum II. Provides additional supervised experience in selected therapeutic modalities. Includes advanced patient assessment, arterial blood gas analysis and airway care. Provides clinical experience in adult critical care with mechanical ventilation. Includes an introduction to basic cardiopulmonary testing. Requires continued Certification in CPR.

### **RES 221 Cardiopulmonary Diagnostics**

**3 Credits**

Prerequisites: RES 125 - Critical Care I and RES 126 - Clinical Medicine I. Presents in-depth approaches to the respiratory care management of critically ill neonatal, pediatric and adult patients. Emphasizes techniques of patient evaluation, cardiopulmonary monitoring, transportation and management. Includes advanced techniques of patient assessment through pulmonary function testing and other selected assessment techniques.

**RES 222 Critical Care II****3 Credits**

Prerequisites: RES 125 - Critical Care I and RES 126 - Clinical Medicine I. Presents advanced techniques of mechanical ventilation of neonatal, pediatric and adult patients; includes fetal development and assessment; neonatal and pediatric assessment, equipment, procedures and therapeutic techniques; and introduces related aspects of the NICU environment.

**RES 223 Respiratory Pharmacology****3 Credits**

Prerequisites: ANP 101 - Anatomy and Physiology I and ANP 102 - Anatomy and Physiology II. Discusses the most common pharmacological agents currently being administered to all body systems. Emphasizes classifications, indications, side effects, dosages and routes of administration. Discusses emergency drugs, antibacterial medication, antifungal medications, and the implications and complications of IV therapy.

**RES 224 Clinical Medicine II****3 Credits**

Prerequisites: RES 221 - Cardiopulmonary Diagnostics. Presents etiology, symptomatology, diagnosis, therapeutics and prognosis of disease conditions related to respiratory care; focuses on the interrelation of all physiologic systems. Emphasizes treatment protocols and includes preparation for clinical simulation component of national credentialing examination.

**RES 226 Continuing Care****2 Credits**

Corequisites: RES 227 - Clinical Practicum IV. Presents a brief history of home care patients in relation to respiratory care modalities. Provides an overview of respiratory care roles in the alternative care sites.

**RES 227 Clinical Practicum IV****6 Credits**

Prerequisites: CPR Certification - Course C and RES 128 - Clinical Practicum III. Provides additional supervised experience in selected therapeutic modalities. Includes advanced cardiopulmonary diagnostic techniques, application of invasive and non-invasive monitoring of the cardiopulmonary system and experience in respiratory care, departmental management and quality assurance roles. Includes advanced clinical experience in adult, pediatric and neonatal critical care. Requires continuing certification in CPR.

**RES 229 Emergency Management****2 Credits**

Prerequisites: CPR Certification - HPC Level. Applies advanced cardiopulmonary life support efforts in an emergency setting.

**SCI 111 Physical Science****3 Credits**

Prerequisites: Successful completion of ENG 025 - Introduction to College Writing II and ENG 032 - Reading Strategies for College II or demonstrated competency through appropriate assessment (ASSET Writing and Reading sections, 41 or higher, COMPASS Writing, 70-100 and COMPASS Reading, 80-100) and MAT 050 - Basic Algebra. Introduces physical concepts and theories pertaining to current applications and trends in physics, chemistry, earth science and astronomy. Emphasizes concepts and factual knowledge.

**SC1 101 Elementary Organic Chemistry and Biochemistry Laboratory****1 Credit**

Corequisite: SCM 101. Experiments to illustrate properties and reactions of organic and biochemical groups. 3 laboratory hours.

**SCM 101 Elementary Organic Chemistry and Biochemistry****3 Credits**

Prerequisites: High school chemistry or satisfactory completion of SIC 101 or SIC 102. Corequisite: CSIC 101. Introduction to nomenclature, reactions and descriptions of organic and biochemical groups. 3 lecture hours.

**SCM 111 Chemistry I****4 Credits**

Prerequisites: Demonstrated competency in writing, reading, and computation through appropriate assessment or successful completion of ITSC ENG 025 Introduction to College Writing II, ITSC ENG 032 Reading Strategies for College II; and ITSC MAT 111 Intermediate Algebra. An introductory course that includes the science of chemistry and measurement, atomic theory and the periodic table, chemical bonding, stoichiometry, liquids and solids, gases and the ideal gas law, solutions, and acids and bases. Available only through the Community College of Indiana. 3 lecture hours, 2 laboratory hours.

**SCM 112 Chemistry II****4 Credits**

Prerequisites: ITSC CHM 101 Chemistry I, or SCM 111 or other equivalent preparation. Further explores concepts of equilibrium. Includes chemistry of metals and nonmetals, environmental chemistry, nuclear chemistry, organic and biochemistry. Available only through the Community College of Indiana. 3 lecture hours, 2 laboratory hours.

**SES 100 Earth Science****4 Credits**

Prerequisites: Students must qualify for ENG 032, MAT 011, and HEW 101. Introduction to fields of geology, meteorology, oceanography, and astronomy. Designed especially for non-science majors. 3 lecture hours, 2 laboratory hours.

**SES 207 World Geography****3 Credits**

Prerequisites: Students must qualify for HEW 101 and MAT 012. Application of geographic principles to interpretation of human activities in all major world regions. Emphasis on cultural, economic and political aspects of major nations. 3 lecture hours.

**SIC 101 Introductory Chemistry I****3 Credits**

Prerequisites: Demonstrated competency in writing, reading, and computation through appropriate assessment or successful completion of ITSC ENG 025 Introduction to College Writing II, ITSC ENG 032 Reading Strategies for College II, and ITSC MAT 111 Intermediate Algebra. An introductory course that includes the science of chemistry and measurement, atomic theory and the periodic table, chemical bonding, equation writing and balancing, stoichiometry, and gases. (IVY Tech State College CHM 101) Available only through the Community College of Indiana. 2 lecture hours, 2 laboratory hours.

### **SIC 102 Introductory Chemistry II**

**3 Credits**

Prerequisite: ITSC CHM 101 Chemistry I or SCM 111. Includes liquids and solids, solutions and solution concentrations, acids and bases, equilibrium, nuclear chemistry, and organic and biochemistry. (IVY Tech State College CHM 102) Available only through the Community College of Indiana. 2 lecture hours, 2 laboratory hours.

### **SIL 102 Introductory Biology**

**3 Credits**

Prerequisites: Demonstrated competency in writing, reading, and computation through appropriate assessment or successful completion of ENG 025 Introduction to College Writing II and ENG 032 Reading Strategies for College II, and MAT 044 Mathematics. Introduces the basic concepts of life. Includes discussion of cellular and organismal biology, genetics, evolution, ecology, and interaction among all living organisms. Addresses applications of biology to society. (IVY Tech State College BIO 101) Available only through the Community College of Indiana. 3 lecture hours, 1 laboratory hour.

### **SIL 211 Biology of Microorganisms I**

**3 Credits**

Prerequisites: Demonstrated competency in writing, reading, and computation through appropriate assessment or successful completion of ITSC ENG 025 Introduction to College Writing II, ITSC ENG 032 Reading Strategies for College II, and ITSC MAT 044 Mathematics. Presents an overview of microbiology that includes fundamentals, methods, and materials. Introduces industrial and clinical microbiology. (IVY Tech State College BIO 211) Available only through the Community College of Indiana. 2 lecture hours, 2 laboratory hours.

### **SIL 212 Biology of Microorganisms II**

**2 Credits**

Prerequisites: SIL 211 or ITSC BIO 211 General Microbiology and ANP 101 Anatomy and Physiology I. Presents a secondary study of bacteria, viruses, fungi, rickettsia, and parasites. Emphasizes the study of bacterial growth and control demonstrated by serological techniques. (IVY Tech State College BIO 212) Available only through the Community College of Indiana. 1 lecture hour, 2 laboratory hours.

### **SIP 101 Physics I**

**4 Credits**

Prerequisite: MAT 104 or consent of the instructor. An algebra/trig based physics course that introduces the basic concepts of mechanics, including force and torque, linear and rotational motion, work, energy and power, simple machines, fluids, and heat. (IVY Tech State College PHY 101) Available only through the Community College of Indiana. 3 lecture hours, 2 laboratory hours.

### **SIP 102 Physics II**

**4 Credits**

Prerequisite: MAT 104 or consent of the instructor. An algebra/trig based physics course that introduces the basic concepts of light, periodic motion and wave motion, electricity and magnetism, modern physics, along with current topics in physics. (IVY Tech State College PHY 102) Available only through the Community College of Indiana. 3 lecture hours, 2 laboratory hours.

### **SLS 202 Biology of Microorganisms**

**4 Credits**

Prerequisites: Demonstrated competency in writing, reading, and computation through appropriate assessment or ITSC ENG 025 Introduction to College Writing II, ITSC ENG 032 Reading Strategies for College II, and ITSC MAT 044 Mathematics. Presents an overview of microbiology but emphasizes clinically related areas of bacterial, viral, fungal, and parasitic involvement. Emphasizes fundamentals, methods, materials, bacterial growth and control, ecology, industrial uses, and biotechnology. (IVY Tech State College BIO 201) Available only through the Community College of Indiana. 3 lecture hours, 2 laboratory hours.

### **SLS 203 Microbiology for the Health Professions II**

**2 Credits**

Prerequisites: SLS 202 or ITSC BIO 211 General Microbiology and ITSC ANP 101 Anatomy and Physiology I. Presents a secondary study of bacteria, viruses, fungi, rickettsia, and parasites. Emphasizes the study of bacterial growth and control demonstrated by serological techniques. (IVY Tech State College BIO 212) Available only through the Community College of Indiana. 1 lecture hour, 2 laboratory hours.

### **SMA 115 Survey of Calculus I**

**3 Credits**

Prerequisite: MAT 102 or 111 with a C or better grade, or two years of high school algebra with recentered SAT Math score of (R)570 or greater. Not open to those with credit in MATH 118; does not substitute for MATH 118. For students in business, social science or pre-professional programs. Introduction to derivative, integrals and their application. 3 lecture hours.

### **SPS 101 Physical Science**

**3 Credits**

Prerequisite: MAT 012, or equivalent placement, and all remedial English. Introduction to physical concepts and theories pertaining to current applications and trends which may be selected from areas of physics, chemistry, earth science, and astronomy. Emphasizes concepts and factual knowledge. 2 lecture hours, 2 laboratory hours.

### **SPT 101 Technical Physics**

**4 Credits**

Corequisite: MAT 107 or MAT 101 or equivalent. An introductory course designed for technology majors. The course covers measurement, motion, force, work, energy, power, simple machines, torques, properties of materials, fluids, hydraulics, sound, heat, and electricity. (IVY Tech State College PHY 100) Available through the Community College of Indiana. 3 lecture hours, 2 laboratory hours.

### **SUR 111 Fundamentals of Surgical Technology**

**4 Credits**

Prerequisites: Admission to clinical phase of Surgical program. Corequisites: SUR 112 - Application of Surgical Fundamentals. Introduces principles of sterile techniques and the operative care of the surgical patient. Includes the roles of scrubbing and circulating duties.

### **SUR 112 Application of Surgical Fundamentals**

**2 Credits**

Prerequisites: Admission to clinical phase of Surgical program. Corequisites: SUR 111 - Fundamentals of Surgical Technology. Demonstrates the application of surgical fundamentals. Correlates theory to practice by requiring students to participate as members of a surgical team in laboratory simulations.



- SUR 113 Surgical Procedures I** **3 Credits**  
Prerequisites: SUR 111 - Fundamentals of Surgical Technology, SUR 112 - Application of Surgical Fundamentals. Corequisites: SUR 114 - Clinical Applications I. Introduces general surgical procedures with review of perioperative patient care including diagnostic testing, pre-operative care and immediate post-operative care.
- SUR 114 Clinical Applications I** **3 Credits**  
Prerequisites: SUR 111 - Fundamentals of Surgical Technology, SUR 112 - Application of Surgical Fundamentals. Corequisites: SUR 113 - Surgical Procedures I. Correlates the principles and theories of basic surgical procedures to clinical performance in affiliating hospitals. Includes knowledge, skills and attitudes necessary for successful implementation of safe patient care in an operating room.
- SUR 211 Surgical Procedures II** **6 Credits**  
Prerequisites: SUR 113 - Surgical Procedures I, SUR 114 - Clinical Applications I. Corequisites: SUR 212 - Clinical Applications II. Studies advanced surgical procedures in relation to the physiological aspects of surgical intervention including those procedures related to the special senses, genitourinary, musculoskeletal and nervous systems. Includes a knowledge of the involved anatomy, existing pathology, surgical hazards encountered, the surgical procedure and a review of perioperative patient care.
- SUR 212 Clinical Applications II** **9 Credits**  
Prerequisites: SUR 113 - Surgical Procedures I, SUR 114 - Clinical Applications I. Corequisites: SUR 211 - Surgical Procedures II. Correlates the basic principles and theories of advanced surgical procedures to clinical performance in affiliating hospitals. Includes knowledge, skills and attitudes necessary for successful implementation of safe patient care in an operating room.
- SUR 213 Surgical Procedures III** **3 Credits**  
Prerequisites: SUR 211 - Surgical Procedures II, SUR 212 Clinical Applications II. Corequisites: SUR 214 - Clinical Applications III. Studies specialized surgical procedures including those related to the cardi thoracic and vascular systems. Includes a knowledge of the involved anatomy, existing pathology, surgical hazards encountered, the surgical procedure and a review of perioperative patient care.
- SUR 214 Clinical Applications III** **8 Credits**  
Prerequisites: SUR 211 - Surgical Procedures II, SUR 212 - Clinical Applications II. Corequisites: SUR 213 - Surgical Procedures III. Correlates principles and theories of specialized surgical procedures to the clinical performance in affiliating hospitals. Includes the knowledge, skills and attitudes necessary for successful implementation of safe patient care in an operating room.
- VIS 101 Fundamentals of Design** **3 Credits**  
Prerequisites: None. Investigates design theory and color dynamics as applied to organizing the visual field. Provides experiences in applying design theory.
- VIS 102 Fundamentals of Imaging** **3 Credits**  
Prerequisites: VIS 115 - Computer Graphics and VIS 101 - Fundamentals of Design. Introduces students to a full range of image input technology including conventional 35mm photography, still video capture, video camcorder and computer scanners.
- VIS 103 Introduction to Multi-Media** **3 Credits**  
Prerequisites: Advanced standing with Advisor approval. Explores various software programs involved in creating multi-media presentations, digital movies, digital animation and analog video output.
- VIS 105 Video and Sound** **3 Credits**  
Prerequisites: None. Provides a comprehensive survey course in video production including an introduction to planning, shooting and editing video projects.
- VIS 115 Computer Graphics** **3 Credits**  
Prerequisites: None. Introduces students to the computer's use in graphic design. Focuses on basic computer terminology and use, mastering fundamental skills and developing efficient working styles. Develops skills by creating publications with page layout software.
- VIS 201 Electronic Imaging** **3 Credits**  
Prerequisites: VIS 115 - Computer Graphics. Examines the area of still video photography and various electronic darkroom software packages. Provides experience with the electronic darkroom environment including editing processes, manipulation of images in black and white and color, and working with various output devices. Discusses four-color separations and pre-press procedures.
- VIS 202 Color Prepress** **3 Credits**  
Prerequisites: VIS 201 - Electronic Imaging. Examines the technical specifications, translation issues, various output options and troubleshooting of graphic files for high end printing processes. Studies and compares the roles of electronic production artists, of service bureaus and of printing technologies.
- VIS 205 Business Practices for Visual Artists** **3 Credits**  
Prerequisites: ART 217 - Advanced Graphic Design. Examines legal and business issues affecting the professional visual artist. Examines copyright and "work for hire", marketing and self-promotion, estimating and pricing, insurance and liability, and the computer's role in managing a business.
- VIS 206 Interdisciplinary Studies** **3 Credits**  
Prerequisites: None. Offers students opportunities to complete selected projects while working in a team environment with students of other disciplines. Simulates situations found in industry.

**VIS 207 Portfolio Preparation****3 Credits**

Prerequisites: All Communications courses. Corequisites: All required program courses. Focuses on student's final preparation for the job interview. Finalizes project work demonstrating acquired knowledge and skills, along with resume and cover letter, for presentation to prospective employers. Provides students with the opportunity to use one credit for field study.

**VIS 208 Portfolio Preparation II****3 Credits**

Prerequisites: VIS 207 - Portfolio Preparation. Provides the opportunity to design a portfolio that focuses on a second specialty area (or additional or updated skill area). Project work is finalized for presentation to prospective employers or industry review. (Restricts work to student specialty area or new skill area and must be portfolio quality.) Allows student to integrate skills between specialties for a revised, extended or additional portfolio.

**VIS 209 3D Rendering and Animation****3 Credits**

Prerequisites: None. Examines the virtual world of 3D and how it can be applied as an illustration and animation element in multimedia. Students will explore navigation, modeling, rendering, animation, and camera and lighting techniques.

**VIS 281-294 Special Topics in Visual Communications Technology****1-5 Credits**

Prerequisites: None. Provides students with the opportunity to experience seminars, workshops and other instructional activities on topics of interest that reinforce the concepts presented in their program area (Contact chief academic officer for more information).

**WLD 108 Shielded Metal Arc Welding I****3 Credits**

Prerequisites: None. Provides students with knowledge of shielded metal arc welding operations and equipment. Provides extensive practice time to produce the skills to make satisfactory welds with this process. Emphasizes safety hazards and safety practices in arc welding.

**WLD 109 Oxy-Acetylene Gas Welding and Cutting****3 Credits**

Prerequisites: None. Offers basic instruction in oxy-acetylene welding with emphasis on welding techniques in flat, horizontal, vertical and overhead positions. Includes brazing and flame cutting. Focuses on safety hazards and safe practices in oxy-acetylene welding and cutting.

**WLD 110 Welding Fabrication I****3 Credits**

Prerequisites: WLD 108 - Shielded Metal Arc Welding I, WLD 109 - Oxy-Acetylene Gas Welding and Cutting, WLD 207 - Gas Metal Arc (MIG) Welding. Provides opportunities for practice in hands-on fabrication of welded products. Includes basic equipment used in fabrication.

**WLD 120 Metallurgy Fundamentals****3 Credits**

Prerequisites: None. Studies properties and uses of ferrous and nonferrous metals and alloys, production of iron and steel, composition and properties of plain carbon steel and alloying elements, selection of tools, case hardening and destructive and nondestructive testing. Includes fundamentals of heat treatment and reactions occurring in metals subjected to various heat treatment methods and techniques.

**WLD 203 Pipe Welding I****3 Credits**

Prerequisites: WLD 108 - Shielded Metal Arc Welding I, WLD 206 - Shielded Metal Arc Welding II. Provides for extensive practice in the preparation and welding of pipe in the 2G and 5G position. Includes preparation, methods of welding, electrodes and filler wires.

**WLD 206 Shielded Metal Arc Welding II****3 Credits**

Prerequisites: WLD 108 - Shielded Metal Arc Welding I. Covers SMAW welding equipment and products used to produce groove type butt welds. Provides extensive practice to develop the skills to achieve satisfactory welds of this type. Safety hazards and safe practices in arc welding are emphasized.

**WLD 207 Gas Metal Arc (MIG) Welding****3 Credits**

Prerequisites: None. Considers various gas metal arc welding (GMAW) processes including microwire, flux-core, innershield and submerged arc with emphasis on metal inert gas welding. Includes techniques of welding in all positions on various thicknesses of metal.

**WLD 208 Gas Tungsten Arc (TIG) Welding****3 Credits**

Prerequisites: WLD 109 - Oxy-Acetylene Gas Welding and Cutting. Provides students with thorough knowledge of the gas tungsten arc welding process. Includes detailed study of the techniques of making welds in all positions using the GTAW applications. Lectures and discussions provide additional background information essential to a qualified GTAW welder.

**WLD 209 Welding Certification****3 Credits**

Prerequisites: Program chair approval. Prepares the student for certification in shielded arc, TIG and MIG welding through study of the qualifications, procedures and equipment standards. Includes a survey of qualifying agencies, associations and societies.

**WLD 210 Welding Fabrication II****3 Credits**

Prerequisites: WLD 110 - Welding Fabrication I. Provides for practice in hands-on fabrication and the use of related equipment.

## Program Chairs

### **Business and General Education Division**

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## Technology Division Mission

It is the mission of the Division of Technology and Visual Communications to provide broad, practical training for those seeking employment and advancement in technical occupations, to emphasize the ability to think and plan in the job setting, to plan initial laboratory experiences that develop skills in the use of modern industrial equipment and measuring instruments. Through classroom and laboratory work, training in industrial applications of theory, analysis, design, and construction techniques is emphasized. Each program provides opportunities for the student to advance from basic skills to proficiency on a high technological level. The Division engages in career education for individuals seeking employment, or who are currently employed in technical-related fields, leading to the associate or applied science or associate in science degree. Further, the Division offers courses to students who are not degree seeking but who desire post-secondary education of a specialized nature.

General education is a major emphasis of each program. It is the goal that all students achieve a level of proficiency both academically and technically that enables them to continue life-long learning skills.

The Division has implemented a secondary/post-secondary education link that promote articulation in an effort to attract high school students into a technical education pathway that will lead to an associate degree, a baccalaureate degree, and even a graduate degree.

Consistent with the definition of Industrial Technology, technology programs within the Technology and Visual Communications Division prepares technical professionals for employment in the local business, industrial, and government organizations.

These programs are characterized by:

- 1) The application of theories, concepts, and principles found in language arts, humanities and the social and behavioral sciences.
- 2) A strong foundation of the theories, principles, and concepts required in mathematics, computers and science to enable the student to relate to the application skills required to today's technologist.
- 3) The completion of a specialization in one of several high-tech high-demand fields such as Automotive Technology, Design Technology, Computer Information Systems, Electronics Technology, Machine Tool Technology, Manufacturing and Industrial Technology or Visual Communications Technology.

### Technology Division Goals

- 1) To ensure that every graduate of the Technology Division possesses the technical skills to be successful in the workplace.
- 2) To promote mastery of the general education skills needed to be successful in higher education and in the workplace.
- 3) To develop basic and advanced skills that enhances ones ability to apply theory, analyze data, solve problems, use mathematics and utilize specialized equipment.
- 4) To obtain qualified faculty both academically and technically
- 5) To secure facilities and equipment conducive to learning the latest technology
- 6) To provide local industry with highly qualified employees capable of meeting entry level skills or upgrading existing employees with advanced training.
- 7) To develop articulation opportunities within each program with secondary and 4 year institutions.







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